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collecting... projecting...

the magic lantern Gazette

and sharing

L J MARCY

ONE HALF OF AN IMPORTANT STEREOSCOPIC IMAGE BY LANGENHEIM SHOWING THE MAGIC LANTERN MANUFACTURER L J MARCY.

SEE ARTICLE ON PAGE 14.

The Magic Lantern Society of the United States and Canada

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VICTOR ANIMATOGRAPH COMPANY
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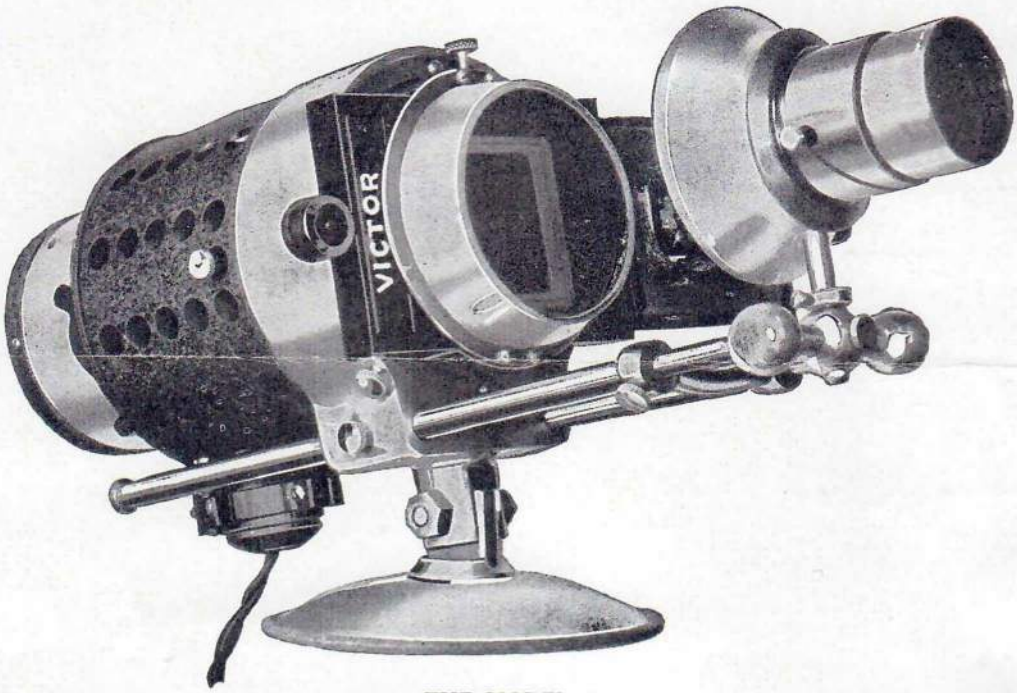

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For classroom use, we especially recommend the Model 2 Victor Portable Stereopticon—an extremely simple equipment to operate—light in weight and highly efficient.

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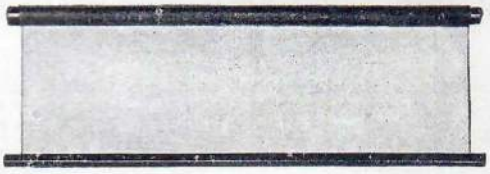

For the daylight projection of lantern slides, the Victor Helioplastic Screen has no equal. Its newly discovered metallic surface of extremely fine grain, assures a brilliantly illuminated image even in broad daylight—while unlike other daylight screens it does not necessitate the awkward projection of slides from the rear.

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A big, free 64-page School catalog of lantern slides—173 different slide lecture sets—16,200 individual slide subjects—the largest library of educational slides ever offered by any slide manufacturer for the benefit of the school users.

Write for your copy of Slide Catalog No. 31. It's Free!

Editorial

Welcome to the Summer issue of the Gazette.

In the Spring issue the main article was Ron Easterday's in-depth research into the Buckeye Stereopticon Company. The feedback that we have received on this article has been remarkable for two reasons:

1. we don't usually get any
2. It is not only very positive from our members but also from the local historians in Cleveland, Ohio.

Thank you Ron!

In this issue we are fortunate enough to have another "in depth" investigation. Terry Borton is sharing his latest research into the distribution and popularity of Boggs Beale lantern slides. As you will recall, Terry and Deborah Borton are the authors of the well respected book "Before the Movies: American Magic Lantern Entertainment and the Nation's First Great Screen Artist - Joseph Boggs Beale".

This latest work looks into estimating the sales of his slides and the likely numbers of viewers. As the lanternist of the American Magic-Lantern Theater for many years we suspect that Terry has boosted viewership of Boggs Beale slides very considerably, to the enjoyment of all in the Society as well as the general public. Terry's renditions were and are as dramatic as the illustrations.

One of our German members, Helmut Waelde, was fortunate enough to be able to acquire a beautiful coloured stereo card portrait of Lorenzo James Marcy together with his wife. Helmut has been kind enough to share the image and his subsequent investigative work with us all. As Helmut refers to an article about Marcy by Alan Kattelle from some years ago, we thought it expedient to reprint this excellent piece for the benefit of newer members.

The Victor Animatograph Company was, by the 1920s, America's largest manufacturer of magic lantern slides. We inherited a lot of material about them from the Riley collection, but just recently came across an article by Samuel G Rose about the history of the company and its founder, Alexander Victor, and felt we should share it with you. Sam Rose joined the company in 1910 as sales manager and took over from Victor as President when Victor retired in 1948, so was in an ideal position to record the progress of the company over several decades.

We have included a more detailed introduction on page 2 to summarise and hopefully clarify matters.

We would like to thank our contributors to this edition of the Gazette:

Terry Borton

Brian Rogers

Helmut Waelde

and posthumously

Alan Kattelle and Samuel Rose.

Make sure to celebrate summer with your kids/grand kids etc!

from a magic lantern slide, circa 1920? If you recognise anyone, please let the editors know!

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The Victor Animatograph Company

We acquired a lot of ephemera from the Riley Collection a few years ago, as some members may recall, including a considerable quantity referring to the Victor Animatograph company. We recently came across a comprehensive account of the firm by Samuel G Rose, who joined the company in 1910 and rose to become its second President when Alexander Victor retired in 1948.

On page 13 I have placed a few notes about Victor and his achievements and you will find the main article by Samuel Rose on page 19. The illustration to the right was included in Victor's catalog of lanterns and accessories (the front cover is illustrated on page 12) as an introduction to the man who devoted his life to the design and construction of projection equipment and the images for use with it. It was intended as a surety of quality and reliability for the benefit of potential purchasers, who knew that he would stand behind their equipment in the event of problems.

A. F. VICTOR
Inventor

THERE is a personality behind Victor Products. Mr. Alexander F. Victor, the president and founder of the Victor Animatograph Company, is one of the pioneers in the mechanical branch of the motion-picture industry, but he early realized that the "magic lantern" and lantern slide are, and always will be, the real "working tools" of the picture-screen user. The creation of the first simplified portable Victor Stereopticon started the popular use of the lantern slide—took it out of the hands of the expert and gave it to the teacher, preacher and the amateur—turned it into a popular utility.

Untiring enthusiasm and unselfish devotion to his chosen field, added to rare talent and inventive genius, caused the technicians of the industry to respect and applaud his accomplishments. The complete record of his inventions of motion-picture and stereopticon apparatus is a long one. This booklet covers only those pertaining to the use of the "still" picture.

Before a Victor product is announced for sale, it must bear Mr. Victor's personal O. K.—the user's assurance of full value—an article worthy of the man whose name it bears.

Forthcoming Events

Aug. 30, 2025, ***Subterranean Magic Lantern Show,*** Elliot & Schlemowitz present a modern magic lantern show with antique equipment underground, Century House Historical Society, The Snyder Estate, 668 Route 213, Rosendale, NY.

Oct. 10-12, 2025, ***Magic Lantern Show,*** Matt Schnittker at Gold Rush Live at Marshall gold Discovery State Park, 310 Back Street, Coloma CA 95613.

For more events see the Magic Lantern Calendar inside the back cover.

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How Many Beale Slides Were Sold in America?

By Terry Borton

Abstract: In a career of 36 years, from 1881-1917, Joseph Boggs Beale produced 2,185 paintings that were photographically made into magic lantern slides by the C. W. Briggs Co. Because the same image was often used for slides sold under different names, Beale actually accounted for a total of 2,621 slides. By the end of his career, Beale's slides were sixty percent of the Briggs Co. business. His slides made up about nine percent of all slides offered in the 1910-1911 catalog of The McIntosh Stereopticon Company, a major distributor in the field, and probably accounted for nine-to-ten percent of the offerings in the catalogs of other major companies in the post-1908 era. Hence Beale was almost certainly the largest individual creator of slides for the American magic lantern industry.

But of the slides offered for sale, how many were actually sold? Heretofore, we could only guess at an answer to that question because there are no hard figures on Beale sales. This article is an attempt to back into a rough estimate of Beale slide sales and viewership by combining and extrapolating figures from several sources. It demonstrates that the Briggs sale of Beale slides from 1890 through 1908 can be estimated to be between 1,300,000 and 2,200,000. Since those slides would have been projected many times over many years, that level of sales suggests the viewership of Beale slides was in the many millions[1].

Fig 1: Joseph Boggs Beale (1841 - 1926)

Joseph Boggs Beale (Fig. 1) was the foremost American artist producing illustrated magic-lantern slides. Almost single-handedly he created the American screen-entertainment imagery for the generation before the movies. He worked for the C. W. Briggs lantern-slide company, first as a freelancer from 1881-1891, then full-time from 1892-1909, and then doing a little freelance until 1917. He was let go from full-time work in 1909 because the movies had cut into the Briggs business so severely. Beale created the master paintings from which slides were reproduced photographically in the Briggs factory. The attribution and provenance of Beale's art, the subjects he covered, and the dates of the paintings have been determined with some precision in a 2014 book written by my wife and myself, *Before the Movies.* A short summary: Beale created 2085 paintings for the magic lantern. Many of his images were used with multiple slide titles for different purposes, giving a total of 2,621 "Beale slide" titles[2] in the following subject areas:

Literature, 788 or 30% (Fig. 2)
Religion, 887 or 34% (Fig. 3)
History/Biography/Current Events, 349 or 13% (Fig. 5)
Temperance, 53 or 2%
Secret Society, 406 or 15% (Fig. 7)
Miscellaneous, 138 or 5%.

Documenting the creation and nature of Beale's images does not, unfortunately, tell us anything about how many slides were sold. That is a critical issue, because only if we have a sense of the number of slides sold can we understand Beale's importance—how widely available his slides were in American society. We do know, in general, that in this period of lantern history the use of the lantern was widespread and growing. For instance, the T. H. McAllister company's lantern-slide catalog grew from 183 pages in 1890 to 256 in 1898[3].

The Briggs Company that produced Beale's slides was also growing and had an unique role in the industry. For much of this period, it was the only company specializing in making slides with illustrated images, as opposed to slides with photographic images such as travel subjects. Briggs was a wholesaler who sold directly to almost every lantern distributor in the country - and all of the biggest. But that only tells us that Briggs and Beale were active in a growing field. When asked about how many Beale slides Briggs actually sold, I have been forced to guess. Was it thousands, or tens of thousands, or millions? I really didn't know. This article will attempt to move from a guess to an estimate - albeit a very rough estimate - of Beale slide sales,1890-1908. That estimate will be based on projections from limited data, but it will give an order of magni-

tude to the sale of Beale slides, and hence give a sense of his impact on American culture.

There are five sources of information that can be used to create such a rough estimate. No one of them provides a complete answer, but by combining them, making some assumptions about the relationships among them, and factoring in economic and other considerations affecting sales, we can in fact come up with a reasonable projection. The five sources are:

1. *The Briggs 1890 Ledger*

2. *The Briggs 1892 Blueprint Catalog*

3. *The Briggs Economic Catalog* (carried by many companies)

4. The "Secret Society Lists" documented in *Be fore the Movies*

5. *The list of "Lantern Slide Companies Distribut ing Beale's Slides."* documented in *Before the Movies*

I'll deal with each of these sources in turn. At the end of the article, I'll combine these individual sources, and factor in other considerations such as macro-economic matters, in order to give a rough estimate of total Beale Sales,1890 through 1908, the last year Beale worked "full time."

Fig 2: Beale's slide 12 for Hiawatha, *part of the Literature Group*

The Briggs 1890 Ledger

The Briggs 1890 Ledger[4] actually covers the period July 1,1890 to January 30, 1892, and provides a record of all Briggs sales in that period. So far as I know, this is the only financial record of any American magic-lantern company that is still extant. It is bound in leather, and kept in two different hands, one of which is quite difficult to read. It describes slide sales by type - plain (i.e. black & white), colored, wood frame, etc. - but for the most part does not list the slide titles or slide artists, such as Beale.

My analysis is for the first calendar year, July 1,1890 through June 30, 1891. In that period there were 32 Briggs customers, all lantern-slide companies. Three of these companies accounted for about 60 % of sales— McAllister (39%), Milligan (15%)[5], and McIntosh (7%)[6]. For larger customers, sales of several hundred slides at a time were common, but the norm was many sales of small numbers, in what we would call today keeping a "just-in-time inventory." Sales were generally steady at 7-9% a month, with a drop for July vacations, a rise in October, presumably as distributors prepared for the Christmas season, and another pop in December for rush orders. (Amid all the sales figures there are some illuminating sidelights: Briggs was selling negatives, as well as slides, possibly negatives for photographic slides that he no longer intended to offer. "The Rateater," one of the few slides described by name, sticks his head out from under the covers regularly. The Briggs "Dancing Skeleton" also jigs regularly through the ledger pages. And though rare, Briggs did have some trouble with payments, scrawling "**Dead Beet**" across one customer's ledger page.)

Fig 3: Beale's slide "Flood Destroying Man and Beast", from Noah *in the Religious Group*

The Briggs Ledger anchors the early years of our study with some very precise figures. From July 1,1890 through June 30, 1891, Briggs sold a total of 79,481 slides for $34,194, equivalent in 2025 dollars

to about $1,300,000[7]. At this time then, the Briggs company was a solid small business, if not a major company. *The Ledger* does contain some information on payments to Beale, though it does not generally specify for what, and provides no help at all in determining what percentage of the slides Briggs sold were by Beale, though it must have been quite small because by 1890 Beale had only produced 86 lantern images that we can date accurately[8].

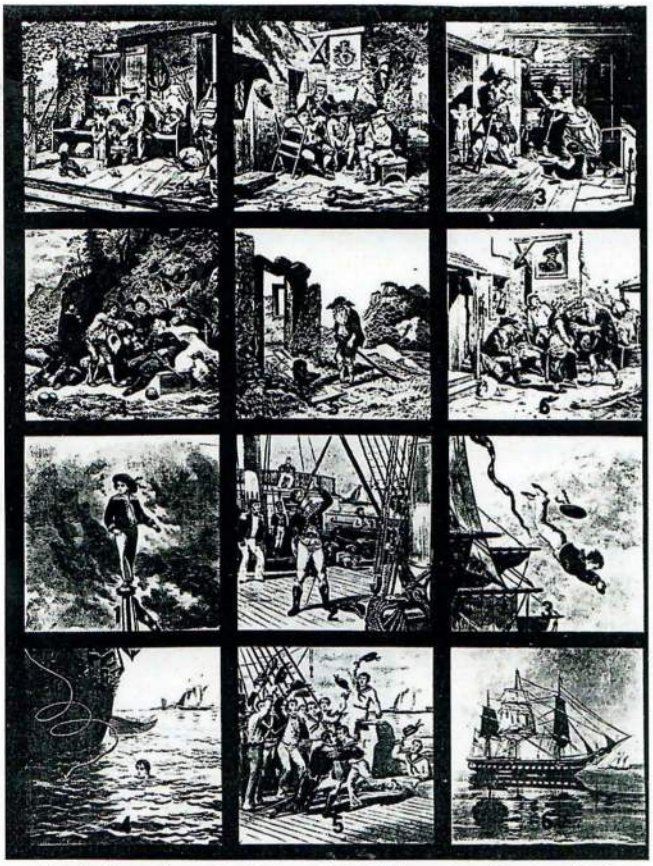


Fig 4: Page from the Briggs 1892 "Blueprint Catalog". The images, from Rip Van Winkle *and* Leap for Life, *are all by Beale.*

The 1892 Briggs Blueprint Catalog

Luckily, the *Briggs Blueprint Catalog*[9], coming in 1892, just after the *Ledger*, gives us some useful information on the question of Beale's role - not the percent of Beale slides Briggs *sold*, but at least the percent *offered for sale.*

The Blueprint Catalog, as its name implies, was not printed, but created with a blueprint process (Fig. 4). It did not contain a one-line description of each slide as was the norm in lantern catalogs, but rather an actual picture of each slide. Though Briggs had apparently been producing such catalogs for some years, the 1892 catalog is the only one extant. Briggs could afford to create such an elaborate catalog because he was not selling to the general public, but rather to 32 customers, all companies that distributed lantern slides to the retail trade. He probably gave one catalog to each distributor annually, but he also sold them copies that they could share with their select customers.

The Blueprint Catalog contains 125 pages, 12 slides to a page, for a total of 1500 slides offered for sale. Of those, 160, or 11 percent offered for sale were by Beale. For purposes of our calculations, I will assume that the percent Briggs *offered for sale* by Beale was also the percent *sold*, probably a conservative assumption, since the Beale slides would have been his newest and hottest offerings.

I also propose that we assume the years 1890-1892 are equivalent, treating the figures from different sources (*Briggs Ledger, Blueprint Catalog*, etc.) for the three different years as though the years were equal, with the same amounts for all figures in all three years. If we do this we can then combine sources and say that of the approximately 79,000 slides sold in 1890 (data from the *Ledger*), 11 % were by Beale (data from the *Blueprint Catalog*). That would mean—again, treating the three years as equal—79,000 total slides x 11% or 8,700 Beale slides sold in each of the three years, 1890, '91, and '92. (Making the three years equivalent may overstate the Beale sales for 1890 and '91, but the numbers are small, and will wash out in the long run.) Eight or nine thousand slides per year may sound like a modest number of Beale sales, and indeed it is, but Beale, and Briggs were literally just getting started. To find out where things are going, we need to jump to the end of our study period, 1908, and the *Economic Catalog*.

The 1910-11 *Economic Catalog*

The *Economic Catalog*[10] was issued yearly, beginning in 1900. That is when McAllister offered a distinct 24-page section of his regular catalog called *Economic Catalog*—printed as part of the larger McAllister listings (Fig. 6). (The *Economic Catalog* was also sometimes printed and bound separately by other companies.) The first of these *Economic Catalogs* was accompanied by a letter from McAllister, dated Jan. 1, 1900, addressing the confusion and objections that had arisen earlier when he had tried to offer cheaper slides of reduced quality. He emphasized that this time, in contrast, "These [*Economic*] slides are of the 'McAllister' quality, and in every instance the best obtainable on the subject." The letter also said that this new line of inexpensive slides, was possible, "owing to our increased facilities for making this line of Slides in large quantities."[11] The *Economic* discount was substantial. The price for 3-1/4" x 4" slides in the regular listings of the McAllister catalog was $.40 for a single "plain" black and white, and $1.00 for colored - equivalent to about $15.25 and $37.80 at 2025 prices. In the *Economic Catalog* the price was $.25 and $.50, respectively - a 37% reduction for "plain," and a 50% reduction for

Fig 5: Beale's slide of "The Boston Tea Party", part of the American History Group

McALLISTER, MANUFACTURING OPTICIAN, NEW YORK.

The Wreck of the Hesperus.

(With Poem by LONGFELLOW.)

1. It was the schooner Hesperus.
2. Blue were her eyes as the fairy flax.
3. The skipper, he stood beside the helm.
4. Then up an spoke an old sailor.
5. Last night th moon had a golden ring.
6. The snow fell hissing in the brine.
7. He wrapt her in his seaman's coat.
8. And bound her to the mast.
9. Like a sheeted ghost the vessel swept.
10. A fisherman stood aghast.

Maud Muller.

(With Poem by WHITTIER.)

1. Maud Muller on a Summer's day,
   Raked the meadow sweet with hay.
2. And blushed as she gave it, looking down,
   On her feet so bare, and her tattered gown.
3. The Judge looked back as he climbed the hill,
   And saw Maud Muller standing still.
4. Oft when the wine in his glass was red,
   He longed for the wayside well instead.
5. She wedded a man unlearned and poor,
   And many children played around her door.
6. Alas for the maiden, alas for the Judge,
   The rich repiner and household drudge.

The Courtin'.

(With Poem by JAMES RUSSELL LOWELL.)

1. Zekle crep' up quite unbeknown,
   An' peeked in thru' the winder,
2. An' there sot Huldy all alone,
   'ith no one nigh to hender.
3. She thought no v'ice had such a swing
   Ez his'n in the choir.
4. He stood a spell on one foot first,
   Then stood a spell on t'other.
5. That last word pricked him like a pin,
   An'——wal, he up and kist her.
6. Tell mother see how matters stood,
   An' gin 'em both her blessin'

Curfew Shall Not Ring To-night.

(With Poem by ROSE HARTWICK THORPE.)

1. He with bowed head, sad and thoughtful, she with lips all cold and white.
2. "I've a lover in that prison"
3. "Bessie," calmly spoke the sexton.
4. She had listened while the judges read.
5. She with quick steps bounded forward
6. She has reached the topmost ladder.
7. Out she swung, far out, the city seemed a speck of light below.
8. Firmly on the dark old ladder.
9. At his feet she tells her story.
10. Kneeling on the turf beside him.

Old Kentucky Home.

1. "The sun shines bright in the old Kentucky home."
2. Chorus—"Weep no more my lady."
3. "They sing no more by the glimmer of the moon."
4. "The time have come when darkies have to part."
5. "A few more days and the trouble all will end."
6. "A few more days till we todder on the road."

A Leap for Life.

(With Poem.)

1. "Old Ironsides at anchor lay."
2. "There stood the boy with dizzy brain."
3. "A rifle grasped
   And aimed it at his son."
4. "That only chance your life can save;
   Jump, jump, boy!"
5. "He sank—he rose—he lived—he moved—."
6. "His father drew in silent joy
   Those wet arms around his neck."

Faust.

1. Faust in his Study.
2. Vision of Marguerite.
3. Marguerite at the Church.
4. Faust and Mephistopheles Visit the Garden.
5. Faust and Marguerite in the Garden.
6. Marguerite Spinning.
7. Marguerite Sorrowing.
8. Death of Valentine.
9. Marguerite Going to Prison.
10. Marguerite in Prison.

Abide With Me.

1. Abide with me, fast falls the eventide.
2. When other helpers fail, and comforts flee.
3. Swift to its close ebbs out life's little day.
4. Change and decay in all around I see.
5. I need Thy presence every passing hour.
6. Who, like Thyself, my guide and stay can be?
7. I fear no foe, with Thee at hand to bless.
8. Where is death's sting? where, grave, thy victory?
9. Hold Thou Thy cross before my closing eyes.
10. Heaven's morning breaks, and earth's vain shadows flee.

From Greenland's Icy Mountains.

1. From Greenland's Icy Mountains,
2. From India's coral strand,
3. From many an ancient river,
4. From many a palmy plain.
5. What though the spicy breezes
   Blow soft o'er Ceylon's isle.
6. The Heath in his blindness
   Bows down to wood and stone.
7. Shall we, whose souls are lighted
   With wisdom from on high.
8. Salvation, oh, salvation,
   The joyful sound proclaim,
9. Till each remotest nation
   Has learned Messiah's name.
10. Waft, waft, ye winds his story
    And you ye waters roll.
11. Till o'er our ransomed nature
    The lamb for sinners slain,
12. Redeemer, King, Creator,
    In bliss returns to reign.

Where is my Boy To-night?

(With Poem.)

1. "The boy of my tenderest care."
2. "As he knelt at his Mother's knee."
3. "O could I see you now, my boy."
4. "But bring him to me with all his blight."
5. "O where is my boy to-night?"
6. "My heart o'erflows for I love him, he knows."

8

Fig 6: Page of the Economic Catalog from T H McAllister's catalog. All these listings are by Beale.

color, bringing the prices down to about $9.45 and $18.90 in 2025 terms. (Regular slides had quantity discounts that were not available for *Economic* slides.)

The "increased facilities" that McAllister says allowed these dramatically cheaper slides belonged not to McAllister, but to the C. W. Briggs Company, which not only manufactured the slides, but also prepared the *Economic Catalog* for McAllister. It must have been a risky move for Briggs and McAllister - cutting their prices drastically in the hopes of making up the difference in greater volume of sales. Apparently, it worked, for Briggs continued to market his slides with the new *Economic* format and price structure. From 1900 to 1908 he also gradually increased the size of the catalog from 24 pages to 34, an increase in pages of about 40 %, and thus generated roughly the same increase in the number of slides offered for sale, and presumably, in the number sold.

The changeover to the *Economic Catalog* and its production within the Briggs company were indeed brilliant marketing strategies. For Briggs not only provided the catalog to McAllister. He also supplied the same catalog to other slide distributors - seven that I have seen copies of. It appears that any lantern-slide company could get the Briggs *Economic Catalog*, include it as their own within their own catalog, or issue it separately with its name stamped on the cover, and so distribute Briggs slides.

This meant that these distributors could not "cherry pick" among the Briggs offerings, but promoted almost the entire Briggs list directly to their retail customers12. Since a large part of the Briggs catalog was based on Beale's art, the *Economic Catalog* vastly increased the dissemination of Beale's work - both because high-quality slides were now much less expensive, and because the advertising listings for them were distributed by so many companies in the market. The *Economic Catalog* - along with Beale's talent - was a major factor in making his illustrated slides so widely used.

I examined **a** 34-page *Economic Catalog,* printed as part of the 211-page "Thirty Seventh Edition" catalog of the McIntosh Stereopticon Co. previously cited. (This McIntosh catalog, the closest I could find to 1908, was published in 1910-11, so it includes 124 Beale slides that are post 1908. These 124 slides are factored out in the following calculations, and so for purposes of this discussion, from now on I will refer to the McIntosh catalog as the "1908 edition" or a similar phrase.) With that caveat, of the 4,420 slides in the *Economic Catalog* 1,444 are by Beale, 2,976 are not. The *Economic Catalog* thus gives us a very firm count on the number of Beale slides that Briggs offered for sale in 1908 - with two exceptions, the Secret Society slides and some Misc. slides which were offered in the main body of the McIntosh catalog[13].

The Secret Society Slides

The *Economic Catalog* did not contain Secret Society slides, which were sold at regular prices elsewhere in the McIntosh and other catalogs. All the secret societies such as the Freemasons and the Knights of Pythias had rituals illustrated with lantern slides, and by 1908 many were Beale slides[14]. Beale produced 406 slide images for this market, of which 233 were carried by McIntosh, so we need to add those and about 300 other Beale slides regarding other subjects to both the overall Briggs offerings in the McIntosh catalog, and to the count of Beale slides. That would bring the total of Briggs slides offered in the 1908 McIntosh catalog to 4,953 of which 1,977 were created by Beale.

Fig 7: Beale's slide of "The Scythe" for the Blue Lodge, Masonic, part of the Secret Society group.

Taking the broader view we can calculate the percentage of Beale slides amid all those offered for sale in the 1910-1911 (1908) McIntosh catalog. The catalog held a total of 23,879 slides from all sources (Briggs plus others). Of these 1,977 were pre-1908 Beale, to which we need to add back the 124 post-1908 Beale slides that we removed in our earlier calculations, giving a total of 2,101 total Beale slides. That means that about nine percent (2,101/23,879) of all slides in the McIntosh catalog were by Beale. Because McIntosh did not offer all Beale images (2,101 offered in McIntosh vs. 2,621 produced by Beale) it is likely that McAllister and some of the other catalogs that carried a wider selection exceeded this nine percent figure. Consequently, we will use a range of nine-to-ten percent as a general estimate for the percent of Beale slides in the major catalogs in the post 1908 period[15].

Summarizing with an historical perspective, we can see that in the 19 years from 1890 through the 1908 McIntosh catalog, the total number of slides Briggs offered for sale more than tripled from his initial 1890 offerings of 1,500 slides to 4,953. In that same period Beale's contribution increased more than twelve-fold, from 160 slides in 1890 to 1,977 slides in 1908. The percentage of Beale's slides in the Briggs offering also grew dramatically - from 11% in 1890 to 40% in 1908. We can reasonably assume that a similar trend was occurring in the other catalogs. It is clear that by 1908, Briggs had become very heavily dependent on Beale's art, and that Beale was responsible for the growth of much of the Briggs business.

Number of Beale Slides Sold

This growth in Briggs slides and the percentage of them using Beale images are both factors that we can substantiate well with the data. More speculative is the move from Beale slides *offered for sale* to slides *actually sold.* To make that move, we need to return to the 1890-1892 combined unit, where we saw that Briggs offered about 1,500 slides for sale, and sold approximately 79,000 slides per year, or 53 slides sold for each slide offered for sale - what I will refer to as "the 53 multiple." If we assume that the 32 Briggs customers (the original lantern distributors or their replacements) remained a constant 32 from 1890 to 1908, and that the same 53 multiple from 1890 of "slides offered for sale to slides sold" applies to 1908, then sales in 1908 would be 1,977 Beale slides offered times 53 or about 104,000 Beale slides sold in 1908. (The number of Briggs distributors did rise significantly, and I will address that shortly.) The assumption that the 1890 "53 time multiple" also applies in 1908 to Beale slides is an unverifiable one, but is probably very conservative. Presumably the whole reason that Briggs employed Beale was because Briggs thought that Beale's work would sell better than the other slides Briggs offered for sale in 1890.

Given a starting point in 1890-92 of 8,700 Beale slide sales, and an ending point in 1908 of 104,000, it is now possible to straight-line the average increase of about 6,000 slides per year, and calculate the cumulative total,1890-1908, for Briggs direct sales to the 32 lantern slide distributors he had in 1890, or their equivalents. That Beale sales number is about 981,000 (Fig. 8).

(A reality check: This cumulative sales number, divided by 19 years, gives an average sale of about 52,000 Beale slides per year. Does this seem realistic? Given that we know Briggs actual sale of all slides (not just Beale) in 1890 was about 79,000 slides, and given that we know for certain that the number of slides Briggs offered for sale more than tripled over our study period, and given that we know for certain that Beale's proportion of the Briggs

Fig. 8	1 Increases 6,000 a year after 1890-92
Year	
1890	8,700
1891	8700
1892	8700
1893	14,700
1894	20,700
1895	26,700
1896	32,700
1897	38,700
1898	44,700
1899	50,700
1900	56,700
1901	62,700
1902	68,700
1903	74,700
1904	80,700
1905	86,700
1906	92,700
1907	98,700
1908	104,700
Totals	981,300

catalog offerings had risen to about 40% by 1908, I think Beale sales of 52,000 a year does in fact seem reasonable. Another way to look at it: Since Beale produced about 2,000 slides in his career, a total of 52,000 slides a year would be the sale of 26 copies of each slide a year, had they all been available in all years. Of course some slides would have sold much better than others, and the gradual build-up of Beale's work over the years would significantly affect the "26 copies" number for the earlier period, but this average makes the point that a relatively small number of copies of each slide can add up rapidly if there are 2,000+ images available, sold over many years.)

But before we can reach a total for all Beale sales, not just those sold to the Briggs 32 customer companies of 1890, there is another consequential factor to consider—the growth in the number of company catalogs that carried Beale's work, and hence the growth in Beale slides sold by those catalogs.

Growth in "Other" Lantern Slide Companies Selling Beale's Slides

You may remember that in the Briggs *Ledger* of 1890, three major firms which were customers of Briggs accounted for about 60 % of the slides sold; the other 29 firms accounted for about 40 %. Those three firms continued to be major players throughout the 1890-1908 period. But the growth of the number of "other" companies distributing Beale slides more than quadrupled, from those 29 in 1890 to 121 in 1908. Some of these additional "other" companies were very small, but some became very substantial indeed, arguably in the same league as McAllister and McIntosh: J. B. Colt Mfg. Co.; M. C. Lilly; Moore, Bond & Co.; James W. Queen & Co.; Stereopticon Film Exchange; Sears Roebuck & Co.; Victor Animatograph. The reach of such companies would have had a very significant impact on the sale of Beale slides[16].

In 1890, those early 29 "other" companies accounted for about 32,000 (40%) of the 79,000 total Briggs slides sold. I am going to assume that this same proportion of 40% sales by "other" distributors also applies to Beale slide sales, and held constant through 1908 as the number of total Beale slides sold by the original 32 companies increased at the rate of 6,000 slides a year after 1890-92. (Shown in Column 1 of Fig. 9)[17].

Col. 2 shows how 40% of Beale sales by "other" distributing companies would increase over the years, per distributor, as overall Beale production and sales grew. I'm also going to assume that that the increase from 29 to 92 additional "other" companies was a flat-line growth of 5.7 companies a year, as shown in Col. 3. Given that increase in the number of "other" distributors, Col. 4 shows the total projected sales by them of about 799,000 Beale slides (Col. 2 x Col. 3). Finally, Col. 5 shows the combined sales of the original 32 distributors (Col. 1), plus sales from the 92 additional "other" distributors (Col. 4). Altogether, the total sale from these companies, based on these assumptions, amounted to about 1,780.000 Beale slides (Col. 5).

Economic, Business, and Cultural Factors

As anyone who has ever been involved in a business knows, there is no such thing as the kind of flat-line growth that I have assumed above. A projection of that kind of growth is best thought of as equivalent to a business plan assuming a set percentage growth a year. But all sorts of factors influence the actual results of a business, which can be thought of as "plan, plus or minus x percent." We can make some assumptions about what factors affected the growth of the Briggs business, and how they might have affected the assumed flat-line growth of Beale slides. Below is a list of these factors, along with the estimated percent effect of each (either positive or negative), and an explanation of each factor. Their effect is shown in Column 6 and 7 of the combined chart, Fig. 10.

Year(s) %+/- Explanation (Col. 6)

1890-92 0 As already explained, I am treating these three years as a unit, so there is no change plus or minus.

1893-96 -30% (each year, but not cumulative) The Panic of 1893 was a very severe recession, lasting 4 years. Briggs responded to it by concentrating Beale's production on the Religious and Secret Society markets, which would probably have been more stable, so he may not have suffered as much as some, but it would have been a very painful period, and it is remarkable that he continued to employ the newly-hired Beale full time during this time.

Year	1 **Projected Beale Slides, Including Sec. Society Slides, Sold to 32 Distributors** Increases 6,000 a year after 1890-92	2 **Projected Beale Sales Per "Other" Distributor** (40% of Col 1 Divided by 29 Distributors)	3 **Projected Growth of "Other" Companies** Increases 5.7 a year after 1890-92	4 **Projected Growth of "Other "Company Slide Sales** Col 2 x Col 3	5 **Projected Total Beale Slides Sold** Col 1 + Col 4
1890	8,700	x	x	x	8,700
1891	8700	x	x	x	8,700
1892	8700	x	x	x	8,700
1893	14,700	203	5.7	1,157	15,857
1894	20,700	286	11.4	3,260	23,960
1895	26,700	368	17.1	6,293	32,993
1896	32,700	451	22.8	10,280	42,980
1897	38,700	534	28.5	15,219	53,919
1898	44,700	617	34.2	21,101	65,801
1899	50,700	700	39.9	27,930	78,630
1900	56,700	782	45.6	35,659	92,359
1901	62,700	865	51.3	44,375	107,075
1902	68,700	948	57	54,063	122,763
1903	74,700	1,030	62.7	64,581	139,281
1904	80,700	1,113	68.4	76,129	156,829
1905	86,700	1,196	74.1	88,624	175,324
1906	92,700	1,279	79.8	102,064	194,764
1907	98,700	1,361	85.5	116,365	215,065
1908	104,700	1,444	91	131,400	236,100
Totals	**981,300**			**798,500**	**1,779,800**

Fig 9: Projected Sale of Beale Slides from all catalogs, 1890 - 1908

1897 +10% Recovery from recession

1898-99 +20% (each year, but not cumulative) The Spanish American War and associated wars elsewhere were full of rabid patriotism, and favorite subjects for both lantern shows and the movies. Beale produced 65 slides on these wars, which were featured in the Sears Roebuck catalog, among others.

1900-05 +20% (each year, but not cumulative) Introduction of the *Economic Catalog*, with dramatic reduction in prices—a 37% reduction for "plain" black and white, 50% for color. How this might have affected the Briggs bottom line is impossible to know, but it surely would have had a dramatic positive impact on sales, and a continuing one.

1906 0 % Beginnings of competitive effect of movies

1907 -30% Growth of the movies cuts into Briggs business.

1908 -50% Briggs writes Beale that business is half usual[18].

1909 -50% (Not shown in Fig. 10, but this is the year Beale was let go, so the decline must have continued to be very substantial indeed.)

Laying these factors against our straight-line model, we get an estimated total Briggs cumulative sale of Beale slides, 1890 through 1908, of about 1,755,000 (Col. 7). Because of the number of assumptions and projections used to reach this estimate, I think it best to express sales as a range, plus or minus 25%, bracketing the 1,755,000 total figure. Briggs sale of Beale slides 1890-1908 would then be estimated to be between about 1,300,000 and 2,200,000.

(Beale continued to produce about 22 slide images a year for Briggs from 1909, when he was let go from his full-time work, until 1917-18, the year the last set was produced. It seems unlikely that these new images sold very well when offered, and indeed they are very hard to find today. It also seems unlikely that the period 1909-1917 would have seen a large sale of the previously existing Beale inventory.)

Summary and Conclusion

Given the number of assumptions used to reach this estimate of Beale slides sold, 1890-1908, it must be considered a very rough estimate, even when expressed as a range. But this rough estimate has been built on some clearly defined parameters which make it testable and adjustable. Anyone who thinks, for instance, that the 1893 Panic had a more severe impact on the Briggs' business than is estimated here can simply substitute their own numbers, and make similar adjustments for the other calculations to arrive at a new total. Consequently, I think the estimate given here is a much better answer to the question of, "How many Beale slides were sold?" than simply holding a finger to the wind and guessing, or saying, "I don't know."

The Briggs/Beale illustrated slides of Literature, History/Current Events, Secret Society, and Religion had a significant role in the larger lantern slide industry. They provided dramatic visual illustrations for important parts of human experience that could not easily be presented on screen by photographic slides. But they occupied a niche amid the much larger sale of slides in areas like travel and science that were made directly from photographs. Altogether, the 1910-1911 (1908) McIntosh catalog offered a total of 23,879 slides from all sources, of which 2,101, or about nine percent were by Beale. The other major catalogs probably had similar offerings: It is likely that in the post-1908 era, nine-to-ten percent of their total slides for sale were Beale images. At that level Beale was clearly the largest individual creator of slides for the American lantern industry. It seems quite remarkable that one man made a contribution of such size.

If Beale were producing nine-to-ten percent of all slides offered in the catalogs, why don't we see more Beale images on eBay today? My impression is that there were many more Beale slides available ten or twenty years ago, as church and secret society basements were cleared out. What we have left today on eBay are primarily travel, foreign (especially British) story sets, and miscellaneous subjects of relatively little interest to collectors. I think the great majority of Beale slides have been scarfed up.

As to the audience impact of the Beale slides that Briggs sold: It is important to remind ourselves that lantern slides were not designed for a "one off" use—they were intended to be used again and again. Many slides by Beale were probably projected dozens of times, some hundreds. And the slides were not projected for one person, but for audiences of tens, or twenties, or hundreds of people. So, if we switch from thinking about the **number of Beale slides sold** to the **number of people who saw Beale slides** the cumulative viewership total over the years must be very large indeed.

In general, I would not hazard generating an estimate on what that viewership number is, but in one area—the Secret Societies—the parameters are clear enough so that my wife and I made an estimate in *Before the Movies*, with a note explaining the calculations behind the following statement[19]:

In 1920, at about the peak of the Societies' popularity, 30 % of American men were members of one of these groups. Making some assumptions, it is

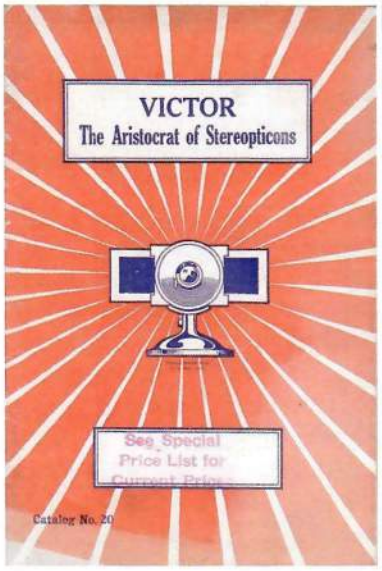
Year	1 Projected Beale Slides Including Sec. Society Slides, Sold to 32 Distributors Increases 6,000 a year after 1890-92	2 Projected Beale Sales Per Small Distributor (40% of Col 1 Divided by 29 Distributors)	3 Projected Growth of Additional Companies Increases 5.7 a year after 1890-92	4 Projected Growth of Additional Company Slide Sales Col 2 x Col 3	5 Projected Total Beale Slides Sold Col 1 + Col 4	6 Projected % Effect +/- of Economic & Briggs Company Factors	7 Projected Final Beale Slides Sold Col 5 x Col 6
1890	8,700	0	0	0	8,700	0	8,700
1891	8700	0	0	0	8,700	0	8,700
1892	8700	0	0	0	8,700	0	8,700
1893	14,700	203	5.7	1,157	15,857	-30%	11,010
1894	20,700	286	11.4	3,260	23,960	-30%	16,772
1895	26,700	368	17.1	6,293	32,993	-30%	23,009
1896	32,700	451	22.8	10,280	42,980	-30%	30,086
1897	38,700	534	28.5	15,219	53,919	10%	59,319
1898	44,700	617	34.2	21,101	65,801	20%	78,962
1899	50,700	700	39.9	27,930	78,630	20%	94,356
1900	56,700	782	45.6	35,659	92,359	20%	110,830
1901	62,700	865	51.3	44,375	107,075	20%	128,490
1902	68,700	948	57	54,063	122,763	20%	147,315
1903	74,700	1,030	62.7	64,581	139,281	20%	167,137
1904	80,700	1,113	68.4	76,129	156,829	20%	188,294
1905	86,700	1,196	74.1	88,624	175,324	20%	210,388
1906	92,700	1,279	79.8	102,064	194,764	0%	194,764
1907	98,700	1,361	85.5	116,365	215,065	-30%	150,545
1908	104,700	1,444	91	131,400	236,100	-50%	118,050
Totals	**981,300**			**798,500**	**1,779,800**		**1,755,427**

Fig 10: Projected Sale of Beale Slides, given outside effects, 1890 - 1908

possible to get a rough estimate of the total number of men watching Beale's images in fraternal organizations in various years. We estimate that in 1900 one and one half million men were watching Beale slides every month in their Secret Society lodges, and by 1920, six million a month.

As this estimate of one group of Beale slide viewers suggests, he was reaching an enormous number of people. But the Secret Societies only accounted for about 15% of Beale's slides. Using the low end of our projected range of total Beale slide sales (1,300,000), that would mean that 15% of that total, or 195,000 Beale slides sold to Secret Societies were generating that Society viewership. To get some sense of Beale's larger viewership we could make similar calculations for two other major groups of Beale slides that probably had a great deal of repeat usage. To do so we need to assume that Beale slides

were sold in the same proportion as they were produced. If so, then we can say that since Beale produced about 34% of his slide paintings for the Religious group - churches, Sunday Schools, missions - this group accounted for about 442,000 Beale slides sold. And we can say that since he produced about 30% of his slide paintings for the Literature group - schools, colleges, itinerant and home performers - this group accounted for about 390,000 Beale slides sold. These hundreds of thousands of sold slides made from Beale paintings, used again and again before audiences of all types and sizes, surely generated a viewership in the many millions. Those sold slides meant that Beale's magic-lantern art permeated many aspects of Victorian culture over a long period of time, and must have had a very profound impact indeed.



Victor Catalog No. 20, together with price updates dated 1925 and 1926.

The 32 pages cover many lantern accessories, parts, Mazda lamp bulb, screens, signalling devices, slide carriers etc.

Ex Riley Collection.

Endnotes:

1. Terry Borton and Deborah Borton, *Before the Movies: American Magic Lantern Entertainment and the Nation's First Great Screen Artist, Joseph Boggs Beale* (New Barnet, Hurtz, UK: John Libby Publishing, 2014).
2. There is a distinction between the painted image that Beale created, and the slides photographically reproduced from the image. Beale did not actually "make slides"—they were manufactured from his paintings in the Briggs factory—but for simplicity of reference any slide made from his image is referred to as a "Beale slide." As noted, "Beale slides" of the same image could have different names and be offered in different sections of the same catalog.
3. T. H. McAllister, *Catalogue of Stereopticons, Dissolving View Apparatus and Magic Lanterns, with Extensive Lists of Views for the Illustration of All Subjects of Popular Interest* (New York, 1893).
4. C. W. Briggs, *1890 Ledger,* Sipley Collection, George Eastman Museum, Rochester, NY.
5. C. T. Milligan, *Illustrated Catalogue of Stereo-Panopticons, Sciopticons, Exhibitors' Lanterns, and Every Form of First-Class Magic Lantern Apparatus and of Photographic Transparencies and Artistically Colored Views in Great Variety, Imported and Manufactured* (Philadelphia, 1892).
6. McIntosh Stereopticon Company, *Projection Apparatus, Accessories and Slides*, Thirty Seventh Edition (Chicago, 1910-11.) Note that since all Beale slide post 1908 are factored out of the counts in this edition, it is referred to in the text as the "1908 McIntosh catalog" or similar phrase. For additional clarity in these notes I will use both dates in the form, 1910-11 (1908).
7. The Inflation Calculator, https://westegg.com/inflation. All inflation calculations in this article use this web site.
8. Borton and Borton, *op. cit.,* 181. Though most Beale sets are tightly dated to within a year or so, there are 14 that are dated to a range of 1881-1920, and 14 more that are undated. It is possible that some of these sets were produced pre-1890.
9. C. W. Briggs, *Blueprint Catalog,* The Sipley Collection, The George Eastman Museum, Rochester, NY. The catalog is not dated. I date it using "Appendix 5, The Beale Method for Dating Catalogs," (Borton and Borton, *op. cit.,* 186-187). It contains slides produced in 1892, so it might have been produced in either that year, or 1893. In order to make my argument cleaner, I've chosen 1892.
10. C. W. Briggs, *The Economic Catalog,* printed as part of the 1910-11 (1908) catalog of *The McIntosh Stereopticon Company,* op. cit. McIntosh called *The Economic Catalog* by his own name, *The Economic Series.*
11. T. H. McAllister, Open Letter to Customers, Jan. 1, 1900. The Borton Magic Lantern Collection, The Lucas Museum of Narrative Art, Los Angeles.
12. As will be discussed in detail later, *The Economic Catalog* did not include Secret Society listings.
13. Again, dated with the "Beale Method," Borton and Borton, *op. cit.* 186-87. The spread of years, 1910-11, is as precise as we can get for this period. This overall 1910-11 (1908) McIntosh catalog is entirely devoted to slides. It is numbered up to 257 pages, but lacks pages 1-80 which in other editions were used to sell equipment. The 34 pages of *The Economic Series* are separately numbered, so the total number of actual pages is 211. The count of 124 post-1908 Beale slides is taken from "Appendix 2, Chronological List of Beale Sets and Groups," Borton and Borton, op. cit., 181. Eleven entries in the McIntosh catalog (on pages 167, 170, 173 and 188) are not for a single slide, but for sets of from 10 to 500 slides, as in "Microscopial Objects (500 slides)." Counts of slides were made by counting each slide entry in the catalog. My thanks to Deborah Borton for taking on this painstaking task.

14. "Secret Society Slides," Borton and Borton, *op. cit.,* 153-163. The 1910-1911 (1908) McIntosh catalog also includes about 300 Beale slides offered outside the Economic and Secret Society groups, primarily in the History, Religious and Dissolving Views areas.

15. Unfortunately, I have not been able to get my hands of a McAllister catalog of this vintage, so I cannot give an exact count.

16. "Appendix 4, Lantern Slide Companies or Agencies Distributing Beale's Slides," Borton and Borton, *op. cit.,* 184-185. We cite 112 total distributors in *Before the Movies*, but have found 12 more since this work was published, or 124, less the three "majors" already discussed, or 121 "other" distributors.

17. It is important to note that sales in these "other" catalogs does not assume that they had "Economic Catalogs, though some clearly did.

18. Casper W. Briggs to Joseph Boggs Beale, December 11, 1908, The Borton Magic Lantern Collection, The Lucas Museum of Narrative Art, Los Angeles.

19. Borton and Borton, *op. cit.,* notes 32 and 33. The original *Before the Movies* note for this passage follows:

For the estimate of Secret Society membership in 1920 see David T. Beito, *From Mutual Aid to the Welfare State: Fraternal Societies and Social Services, 1890-1970* (Chapel Hill, North Carolina: University of North Carolina Press, 2000) 2. The Census reported about 39,000,000 men in the country in 1900, and 54,000,000 in 1920. See Rogers C. B. Morton, *Historical Statistics of the United States, Colonial Times to 1970, Part 1* (Washington, D. C., Bureau of Census, 1975) 9. If 30 % of the male population in 1920 were Secret Society members, that would be about 12 million. By that time most Secret Societies were using Beale slides, but since they had been using other slides before Beale and some might still be, to be conservative we have cut that number in half, suggesting that 6 million were watching Beale slides in 1920. Calculating a similar number of 1890 is more difficult because various Secret Societies began using Beale slides at different times. The Knights of Pythias had about half the membership in 1900 that it had in the 1920s. [See *Before the Movies,* note 32.] If we assume that the same was true of other Societies, that would mean six million members in 1900, and if we reduce that number by three quarters, to be conservative about those watching Beale slides, then one and half million seems like a reasonable estimate.

Notes on Alexander F Victor regarding the article on Page 20

David Evans explains a few matters

In the Magic Lantern Gazette Volume 25 No. 1 I contributed a short article on the Victor Animatograph Company and its products. Since then this article on the company and its founder by Samuel G Rose turned up and it reveals a lot more about Victor and his inventions. Samuel Rose joined the company in 1910 and eventually took over the running of the firm as President on Victor's retirement in 1948. Victor was then elected honorary Chairman of the company. Rose was therefore in the perfect position compose a biography of the company history. The original of his writing is housed at the University of Iowa Special Collections & Archives along with a lot more historic material.

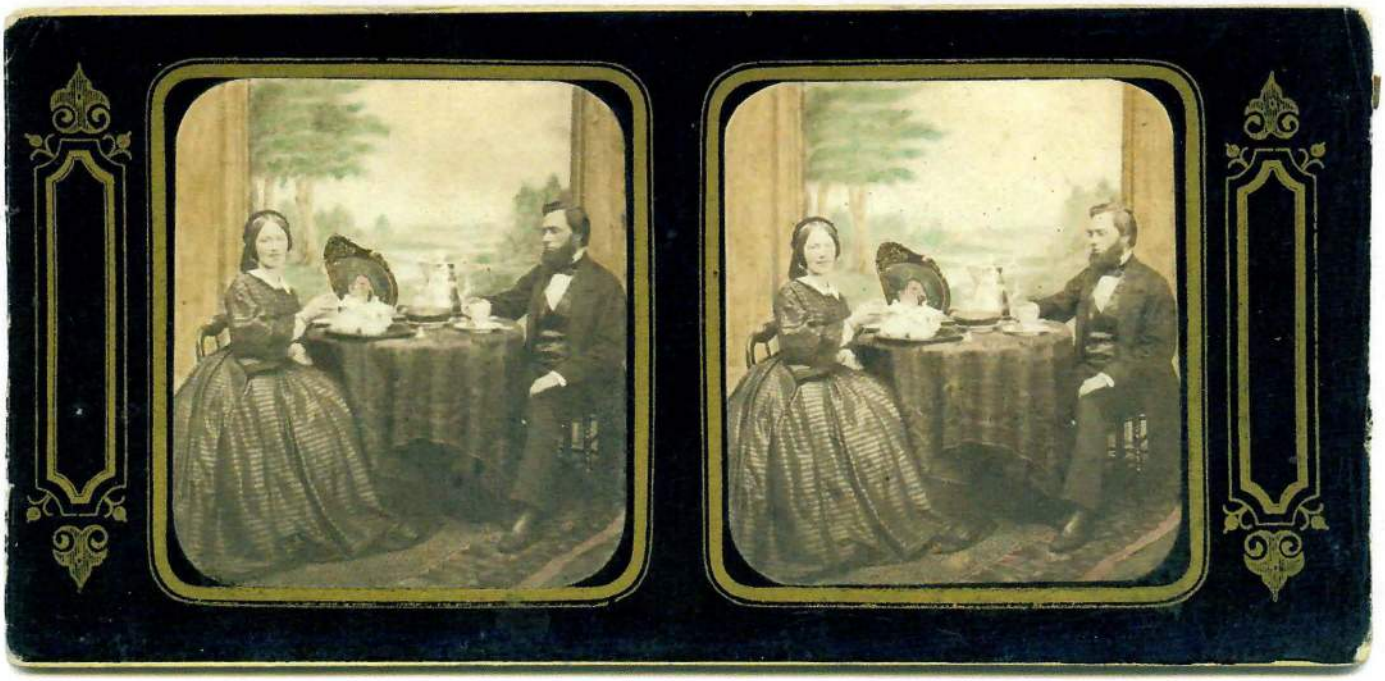
The article concentrates mainly on Victor's contributions to the development of movie cameras and projectors, but one should also bear in mind that, by 1921, Victor had become the largest manufacturer of magic lantern slides in the United States. On page 28 we illustrate the contents page of a 124 page catalog of slides only, from the Riley collection, to give an idea of the scope of their offerings. We also show a 32 page catalog of their 'Portable Stereopticon' lantern, illustrating many variations on the theme - dissolving pairs, long focus versions, even a high-power dissolving pair with incandescent 1000 Watt lamps, though they do not explain exactly how one dissolves. With the regular dissolving pair, it is explained that use is made of the Victor Dissolving Rheostat to dim the lamps. Using such a device to dim a pair of 1000 Watt lamps must have been hot work!

We have updated most of the illustrations in the Samuel Rose article, several from the original patent applications (obtainable from Google Patents) and various other sources where possible, as those in the printed version of the original article were not very high definition.

Lorenzo James Marcy

(1819 – 1896)

By Helmut Waelde



Since I was able to purchase a stereo card with the portrait of the Marcy couple a few years ago, I have been planning to report on it. The best place for this is in my view the Magic Lantern Gazette, also because the Society chose Marcy's Sciopticon as its logo.

Marcy's Sciopticon was a very successful 19th century magic lantern. It was invented by Lorenzo James Marcy. At the time of his first patent application in 1868, Marcy was 49 years old. In the stereoview shown here we see him when he was younger (figs. 1, above, and 2 - see front cover of this journal). Several notes are written in pencil on the back of the card. (fig. 3) The description: "Lorenzo James Marcy & Mrs. Marcy his wife" seems to me to be the original inscription, which was perhaps written during Marcy's lifetime. The other handwritten notes were obviously added later by another hand. It is a (Dr.)-addition, the biographical data and the notes "Newport RI", "Invented the Marcy Sciopticon for magic lantern slides et al." and "Langenheim salt print". A native of Newport, Rhode Island (RI), Mrs. Marcy was born Sarah Elizabeth Wilbour and lived from 1829 – 1916.

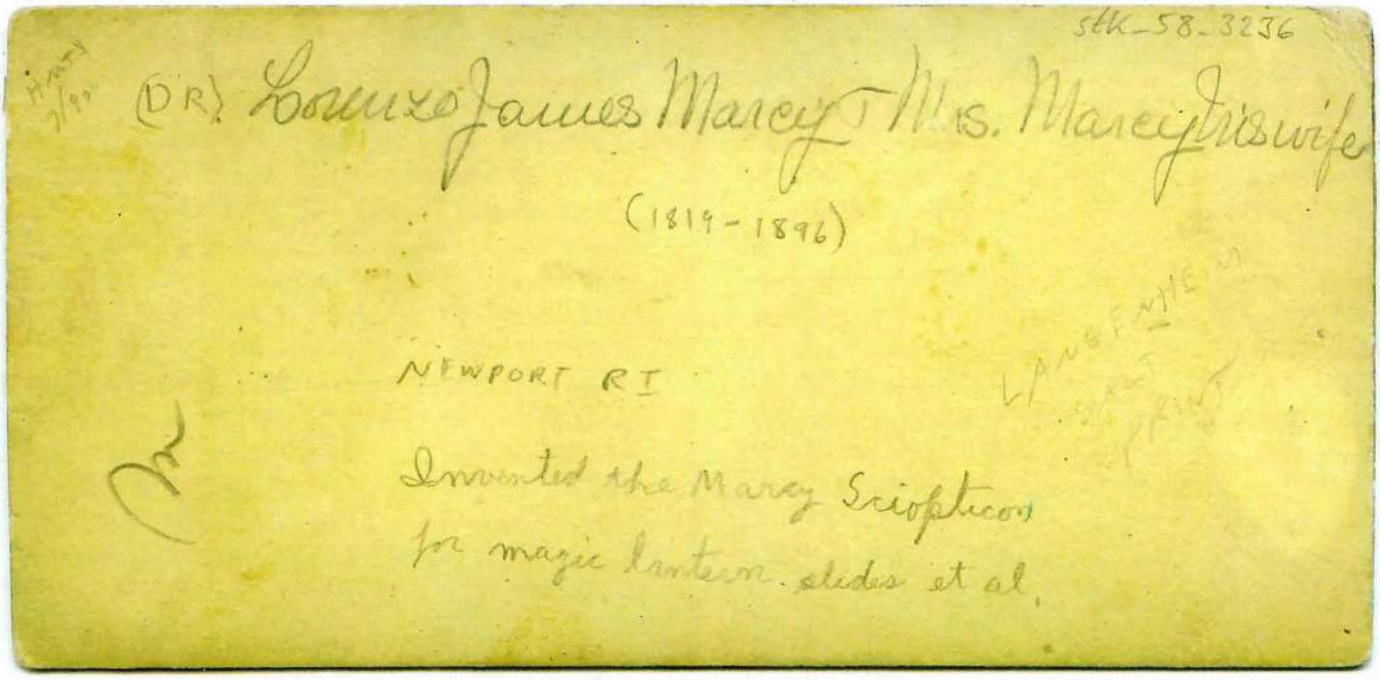
The stereo card does not bear the photographer's signature. Due to the style of the passepartout, the stereoview can be attributed to the brothers Frederick and William Langenheim, who used the same layout for many of their stereo glass diapositives (Fig. 4). The photographs on the stereo card were made using the salt paper process and are hand-coloured. The Langenheim brothers tried unsuccessfully to establish this process under the name Talbotype in the USA, for which they had acquired the patent from Henry Fox Talbot 1849. It ended in the bankruptcy of their company in 1849 Langenheims' Talbotypes are very rare. The Langenheim brothers ran their photographic studio in Philadelphia at different locations from 1842 to 1874. It might be possible that the Langenheims and Marcy knew each other personally. The Langenheims invented the first photographic magic lantern slides in 1848 using albumin on glass. In an article for The Magic Lantern Bulletin Alan Kattelle has already mentioned the Marcy sciopticon with important information regarding Lorenzo James Marcy. According to Alan Kattelle, Marcy used the magic lantern for teaching purposes early in his time at Barstow School. "By the mid-1860's Philadelphia had become the capital of the magic lantern business due in large part of the Langenheim brothers." The portrait of the Marcy couple was likely created in the early 1850s. Perhaps their marriage in 1852 was the reason for the photo. It is, as far as I know, the only known photograph that shows Lorenzo James Marcy and also his wife.

Information from other sources allows me to add the following to Alan Kattelle's article on Lorenzo James Marcy. He was born on January 11, 1819 in Killingly, Connecticut, the only son of Dr. James Lorenzo and Frances Marcy, née Browning. He had one sister Ellen Celestina who later married Davenport (May 2, 1829 – Feb. 1, 1897, buried in Woodstock Hill Cemetary, Ct.). According to Alan Kattelle, Lorenzo James Marcy wanted to be a doctor like his father. For health reasons he had to change that and decided to become a teacher. After his education, he worked at various schools in Connecticut and Rhode Island. In 1852 he was appointed principal of the newly established Barstow Union School in Detroit, Michigan, and his wife Sarah became his first assistant. At the time of the marriage, which took place in Connecticut in 1852, Lorenzo was 33 and his wife was 23 years old. The decision of the two to marry certainly also had something to do with the professional security that now existed. Various press releases from 1856-1861 indicate that Lorenzo J. Marcy's annual salary as rector was $900 and that of his wife as his first assistant was $400. In 1866, after 14 years, the Marcy's together ended their positions as principal and first assistant at Barstow Union School. After that, they apparently moved back to Newport, Rhode Island, his wife's birthplace. Presumably, he began developing a new type of magic lantern during his time as rector, which he intensified in Newport and completed with the patent applications in 1868 and 1869. I could not find out if or when he acquired a doctorate. In the manuals of the sciopticon or his patents no use of his doctorate was made. Patent number 97419 dated November 30, 1869 still identifies J.L.Marcy as a resident of County Newport and the State of Rhode Island.

Obviously he did not open his business in Philadelphia until 1870 or 1871. The name sciopticon was first used in the 1st edition of "The Sciopticon Manual" that was printed in Philadelphia by Sherman & Co. Opening an establishment in Philadelphia made sense since Philadelphia played an important role in the photographic industry as already mentioned. It is not clear if he also changed his home from Newport to Philadelphia than. In 1874 their address used was 1340 Chestnut Street, Philadelphia. He presumably spent his twilight years with his wife in Newport, since there is a burial place of his there. The Marcy couple had no children.

Fig 4: Langenheim glass diapositive.

Fig 3 (below): original inscription and added notes.



The Marcy Sciopticon - an Improved Magic Lantern

by Alan Kattelle (reprinted from The Magic Lantern Bulletin, Vol 8 No. 1 June 1986)

The first recorded description of a magic lantern is generally agreed to be that in Athanasius Kircher's book, Ars Magna Lucis et Umbrae, published in Rome in 1646. Kircher, a German Jesuit scholar, described the basic elements: light source, transparency, and condensing lens, however these were not combined into one integrated device, nor is it entirely clear that Kircher understood the proper relationship of these elements.

But it was a beginning, and for the next 150 years or so, philosophers, tinkerers, scientists, and showmen improved on and embellished Fr. Kircher's device until, by the dawn of the 19th century, the magic lantern was firmly established as a popular form of entertainment. Its usefulness was limited, however, by the generally low level of illumination available: candle, tallow, whale oil, or kerosene lamp. Audiences were limited to the few that could gather in a small room.

The year 1801 saw the invention of the oxy-hydrogen blowlamp, which led to the invention of the limelight in 1826. With that device's powerful white light, the magic lantern's potential expanded a hundredfold. The next few years would see lanterns of great sophistication entertaining theater-sized audiences. However, the limelight was not without drawbacks: it was relatively expensive to purchase and operate; it was bulky; and, in the hands of an inexperienced operator, it could be hazardous. All of this made the limelight ill-suited for home use.

The magic lantern by the mid-1800's thus had two quite distinct spheres of operation: equipped with candle or kerosene lamp, it was a popular parlor amusement, almost unchanged in appearance from the 17th century; equipped with some form of limelight, and in the hands of professionals, it entertained audiences of hundreds. Note the key words "entertainment" and "amusement." There remained an area for lanternists largely untouched: education. For, unless one accepts such program titles as "Views Conveying Moral Lessons", or "Drunkard's Progress and End" as educational, most lanternists' programs consisted of travelogues, biblical scenes, religious or moral exhortations, or outright amusements such as "comic" slides, phantasmagoria, special effect slides, and the like.

Into this breach stepped a Northport, Rhode Island educator, Lorenzo James Marcy. Between April 1868 and July 1869, Marcy received three patents covering

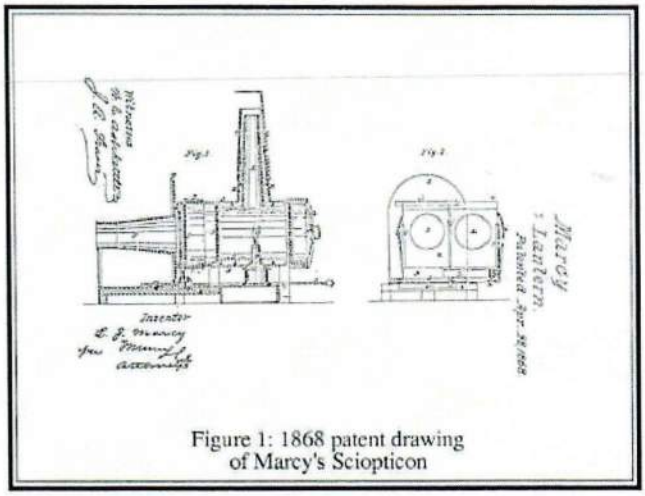


Figure 1: 1868 patent drawing of Marcy's Sciopticon

an "improvement in lamp burner" and an "improved magic lantern." Within the next decade, the Marcy Sciopticon was to become the foremost in oil lanterns. For the first time, a magic lantern was available with sufficient "throwing power" to effectively display detailed slides to a classroom, while fueled by cheap, reliable, nonexplosive kerosene.

Let us now examine what was novel and improved in Marcy's lantern. First, in his Patent No. 77300, dated Apr. 28, 1868 (see Figure 1), Marcy proposed constructing the lantern body and the chimney with double walls--an inner an an outer shell, with an air space between.

This would have the happy effect of keeping the outer shell cool, and at the same time permitting the lantern body to be of smaller dimensions, without undue heating of the outer shell. Secondly, both the reflector holder at the rear and the condenser lens holder at the front fitted tightly on the cylindrical body of the lantern , thus producing a compact and rigid structure. The second patent, No. 80984, dated Aug. 11 , 1868, introduced a novel lamp burner. In place of the conventional round or single fiat wick, Marcy placed two broad, flat wicks parallel to the axis of the lantern, with a uniquely shaped perforated plate between the wick tubes for increased oxygen supply, the total effect of which was to produce the most brilliant illumination achieved with a kerosene lamp (Figure 2). The last patent, No. 92330, dated July 6,1869, consisted essentially of refinements to the two earlier designs, making the lantern easier to assemble and service. It also resulted in a design which more closely resembles the Sciopticons which we see in surviving examples (Figure 3).

Lorenzo James Marcy was born in Killingly,

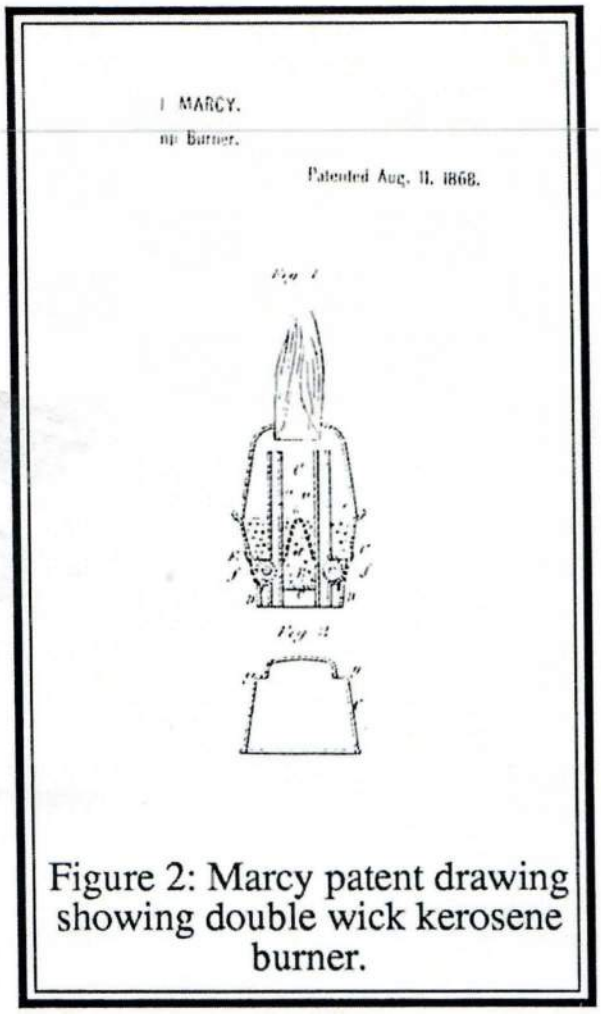


Figure 2: Marcy patent drawing showing double wick kerosene burner.

Connecticut, on January 11, 1819, the only son of Dr. and Mrs. Lorenzo Marcy. Dr. Marcy was a prominent citizen of the area, elected to the State Legislature in 1835, and recipient of an honorary M.D. degree from Yale College in 1839. Young Lorenzo had hoped to follow his father's profession, but ill health forced him to abandon the study of medicine, and he became a teacher. After a few years in Connecticut and Rhode Island schools, in 1852 he was named principal of the newly-built Barstow Union School in Detroit, Michigan, and his wife Sarah was appointed first assistant. It is recorded that the Barstow School "... was marked by a procession through the streets of Detroit with banners and music, to celebrate the opening ... of the finest schoolhouse in Michigan." While at Barstow, Marcy became interested in the use of visual aids to classroom lectures, and began the use of blackboard drawings and the magic lantern. However, the magic lanterns then available to a schoolmaster of modest means were, as we have seen, of limited projecting power. In addition, they were apt to smoke and smell unless carefully tended, and would readily burn the fingers of an unwary operator, as the lantern body and chimney became quite hot after a few minutes use.

Dissatisfied with this state of affairs, Marcy began the series of experiments which culminated in the patents we have discussed above. Since the patent applications give Marcy's address as Newport, Rhode Island, the inference is that the Marcys resigned their posts at Barstow so that Lorenzo could devote full time to his new endeavor. We do know something of their tenure in Detroit, thanks to this passage quoted from Histories of the Public Schools of Detroit: "They (theMarcys) left a lasting impression on the schools and the community. Forty years later, in 1904, one hundred and fifty men and women, who had studied at Barstow during the Marcy regime, gathered--for the first Marcy-Barstow reunion, an event that was held annually as long as this group lived."

The date of the Marcys' next move is uncertain, but by 1874 their address was 1340 Chestnut Street, Philadelphia, opposite the U.S. Mint, and Marcy was listed as a manufacturer of magic lanterns. Philadelphia by the mid-1860's had become the capital of the magic lantern business, due in large part to the presence of the Langenheim brothers. William and Frederick Langenheim, immigrants from Germany, settled in Philadelphia in 1840, where they practiced daguerreotypy through the 1840's, and experimented with other forms of photography. In 1850 Frederick was granted a patent for a process for making positive prints on glass, which he called "Hyalotypes." While not important in the field of stereographs, their principal business at the time, the glass positive was ideally suited to lantern projection, and the Langenheim firm vigorously pursued the production of lantern slides. By 1860 the lantern slide business had overtaken the production of stereographs, and within a few years photographically produced slides had almost completely supplanted hand drawn or painted slides throughout the industry.

Marcy, we may suppose, would have been attracted to Philadelpia as a site to manufacture and sell his lantem given the presence of such as the Langenheims, Dr. Coleman Sellers, Henry Renno Heyl, John C. Browne, and, nurturing all these men, the Franklin Institute. And Philadelphia seems to have been the right choice - Marcy and his lantern prospered, and a symbiosis developed between Marcy and the leading scientific figures of the day. To accompany each lantern sold, Marcy produced a Sciopticon Manual, a marvelously comprehensive volume covering such topics as the optics of the eye, the theory and construction of lenses, the history of the magic lantem, the use of photography to produce lantern slides, etc., etc. The fifth edition, printed in 1874, ran to 178 pages, plus a 53 page priced catalog of apparatus and slides. Many of the manual chapters were edited by leading authori-

ties of the day. The photographer John C. Browne, to whom Philadelphia historians are indebted for his superb views of the city, edited the chapter on photography. In it are described the making of glass positives for the lantern by the dry plate process, "Marcy's Wet Plate Process," and the making of Woodbury photorelief slides. Marcy's prominence in the photographic arts of the day seems clear. For anyone who played with a "chemistry set" in his youth, the chapter on chemical experiments will be mouthwatering. Using a simple glass tank placed on the stage of the lantern, into which chemicals could be introduced, a fascinating variety of experiments could be performed. The descriptions of "trees" of tin crystals growing as you watch, boiling "storm clouds" of ammonia dropped into copper sulphate solution, and all projected in full brilliance on the screen, makes one want to rush out and assemble the apparatus. The same tank, the manual tells us, could be used for" .. .insects, larvae of gnats, shrimps, worms, lizards, &c., (which) appear as huge monsters on the screen, and excite a lively interest by their eccentric movements." This chapter was contributed by Prof. Henry Morton, President of Stevens Institute of Technology. The Sciopoticon itself underwent only minor changes from the patent drawings of 1869. A movable slide was added which in the words of the manual" ... may be used to simulate the rising and falling of a curtain, thus handsomely opening and closing an exhibition." Another device permitted raising and lowering colored filters called "tinters," to produce effects such as a red sky for a conflagration, the darkening sky for a storm, and so on. As we have noted, Marcy's first concern when he began his experiments was to improve the light output of the kerosene lamp, at which he succeeded admirably. He was shrewd enough, however, to recognize the limitations of the Sciopticon lamp, and thus we see in the 1874 catalog a great variety of "lime" or "calcium" light equipment (a word about terminology: Marcy throughout uses the term "calcium light" rather than limelight). He also advises us that" A lantern with a calcium light...is commonly called a Stereopticon." The origin of Sciopticon is undocumented, but it seems likely that Marcy coined it from science and stereopticon. Curiously, it does not appear that he registered it as a trademark. The Sciopticon, with Sciopticon lamp, opaque curtain, tinters, and stage, listed at $45 in the 1874 catalog, together with this somewhat plaintive note: The new additions and improvements do not add to the price of the Sciopticon, but they put all further discount out of the question." A pair of Sciopticons, with case and dissolver for showing dissolving views, was priced at exactly $100. Equipment for calcium lighting, which would include jets, gas generators, gas bags, pressure boards, tubing,

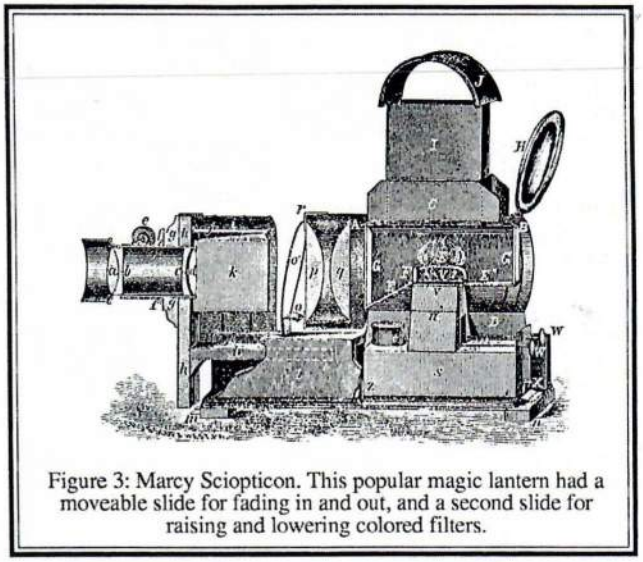


Figure 3: Marcy Sciopticon. This popular magic lantern had a moveable slide for fading in and out, and a second slide for raising and lowering colored filters.

etc., would at least equal the price of a plain lantern. Slides were surprisingly expensive: plain ones listed at $2.50 each, with some sets of 8 at $12. Mechanical slides, particularly elaborate "chromatropes," cost $5 and up. Even as Marcy's Sciopticon was reaching the peak of its popularity, a new art was taking shape which would ultimately ring down the curtain on magic lanterns. On February 5, 1861, Philadelphian Coleman Sellers, grandson of Charles Willson Peale and chief engineer of a family owned machine tool firm, patented a device for the rapid viewing of a series of stereographic photographs.

Sellers called his invention the "Kinematoscope." In February of 1870 another Philadelphian, Henry Renno Heyl, staged an exhibition of his "Phasmatrope" at the Academy of Music. Heyl's machine used 18 posed serial photographs (wet collodion) mounted on a wheel, revolving in front of a magic lantern. In 1876 Caspar W. Briggs, a New England photographer who had moved to Philadelphia, invented a complex mechanical slide which incorporated an intermittent movement and a shutter working together to produce the illusion of motion on the screen. Elsewhere other hands were weaving other strands - Reynaud, Marey, and Muybridge, to name but a few. By 1891 Thomas Edison had applied for patents on the Kinetograph camera and the Kinetoscope projector. And also by 1891 age and a new era had caught up with the gifted educator from Newport. In that year; Marcy sold the Sciopticon business to a Philadelphia printer named John Wilbour and moved back to Newport. There he died at the age of 77. The year was 1896, and before that year was out, "motion pictures" were a reality and the two hundred fifty year reign of the magic lantern was over.

Alexander F. Victor

Motion-Picture Pioneer

By SAMUEL G. ROSE

The year was 1918; the place, Rochester, N.Y.; and the occasion, a meeting of the recently formed Society of Motion Picture Engineers. On this occasion Alexander F. Victor, an equipment manufacturer and an active member of the Society addressed the assemblage on the subject, "The Portable Projector; Its Present Status and Needs." (*Trans. SMPE*, No. 6, pp. 29-32, Apr. 1918.) In his paper, Victor made a strong plea that the Society create a new and separate standard for motion pictures used outside the theater, that is, in the nontheatrical field. Specifically he proposed a modification of the 28mm film size that had been introduced in 1912 by the French firm of Pathe Freres. Mr. Victor pointed out that if the SMPE were to adopt a standard of this type it would tend to discourage a number of manufacturers of portable projectors from using many different film sizes and would encourage a more uniform practice.

Most significantly, Victor stated that this film size should be supplied only on safety acetate support in order to reduce the hazard of its use in the home, the school and other locations where safety from fire hazards is paramount. It was a bold proposal and Victor stated later that "it took many months of the hardest kind of persuasion and work to obtain the required number of votes to secure acceptance of this proposal"(*Am. Cinemat.*, 26: 376, Nov. 1945). A standard was adopted in April 1918 by the Society for safety standard film, 1.102 in. (28 mm) wide, for use with portable projectors.

This event indicated the deep interest of Alexander Victor in standardization related to equipment and the use of safety film for portable projection, an interest which was shown again and again throughout his life as an inventor and manufacturer.

Alexander Ferdinand Victor (Fig. 1) was born June 20, 1878, in Bollnas, a small Swedish town near the Arctic Circle. Little is known of his childhood except that his father was a Swedish Army officer, often transferred to new military posts. Thus Victor's early schooling was severely and often interrupted. He had no formal technical education, but at one point he was a student for a period under the physicist, Solemon Andree, who quickened his interest in physics and mechanics. (Professor Andree was later lost on an ill-fated balloon trip to the North Pole.)

Victor was sixteen in 1894 when he happened to

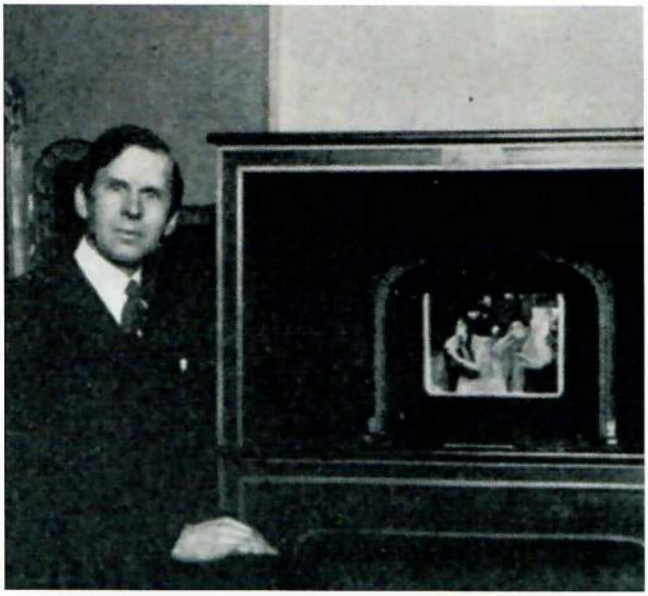


Fig 1: Alexander Victor (1878 - 1961)

attend a performance of Stephanio, a renowned magician. Intrigued by a chance to put his creative imagination to work, he joined Stephanio and soon added several illusions to the repertoire while on tour in Europe; he also became expert at slight-of-hand with cards and coins.

While Stephanio was showing in Paris in 1896, Victor saw an exhibition of motion pictures (35mm), one of the first in Europe, shown on the Lumière Cinematographe. After much persuasion, Lumière Freres sold him projector Number 17 and a few 15-meter films. So a few minutes showing of "movies" was added to Stephanio's magic show and made a tremendous hit. Late in 1896 Stephanio died in Cairo, Egypt. Victor successfully carried on the show, as the "Boy Wonder of Magic and Illusion," through the Near East and India until 1900, when he came to the United States. With him came the Lumière projector.

From 1901 to 1908, Victor operated two melodrama companies, showing in small towns while building up his own magic and mystery show, which finally gained "big-circuit" time in the East where he performed as "Alexander the Great." In late 1908 all was going well until in rehearsal for a week's stand in Toledo, Ohio, he found need for another trap-door in the stage for the disppearing lion act. The manager of the new theater refused to provide it. The ensuing altercation became violent and heated, resulting in the cancellation of the week's showing. All the props

were moved to a warehouse to await shipment to the next weeks stand. The warehouse burned to the ground. Victor's career as a showman was ended.

With little more than enough money to pay off the cast of twelve and send them back to New York, he joined the staff of the Toledo branch office of the White Lily Washing Machine Company of Davenport, Iowa, and became the first to motorize hand-operated clothes washing machines.

Through his experience of the last few years with the Lumière projector he became convinced that there were other fields for motion pictures than entertainment. By working in the Edison Laboratories at East Orange, New Jersey, and with the help of a Toledo machine shop, he had the opportunity to develop his ideas for an amateur motion-picture camera and projector. He built his first model and applied for the first three patents: a spiral disc motion-picture film, a camera and projector combination and a display machine. The projector was the first to be housed in a suitcase with a carrying handle (Fig. 2).

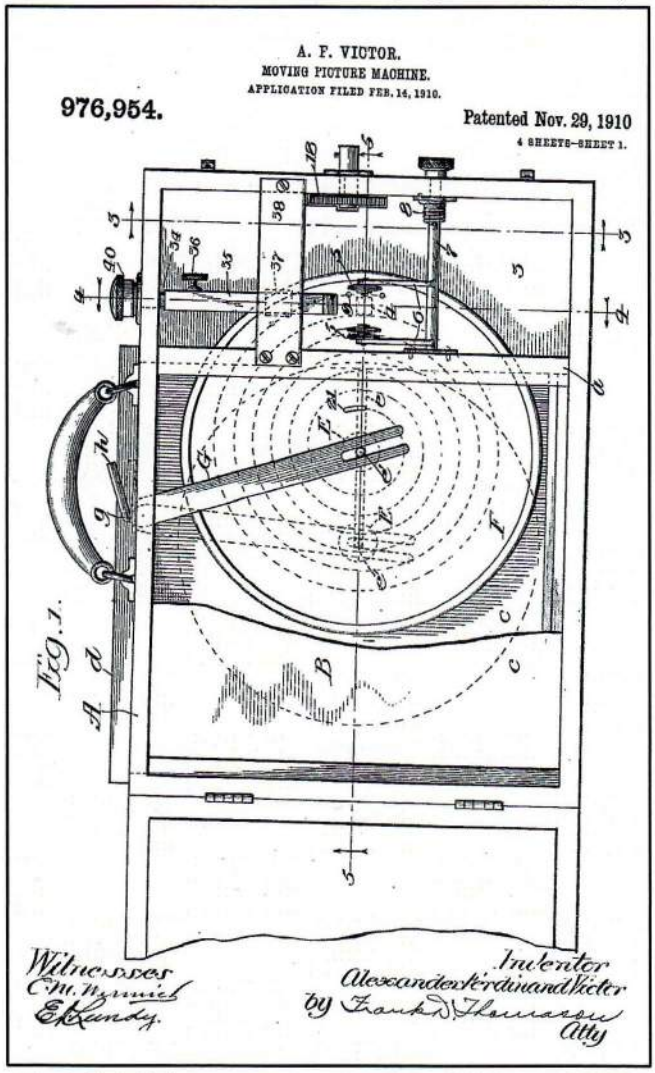

A. F. VICTOR.
MOVING PICTURE MACHINE.
APPLICATION FILED FEB. 14, 1910.
976,954.
Patented Nov. 29, 1910
4 SHEETS-SHEET 1.
Fig. 1.
Witnesses
Inventor
Alexander Ferdinand Victor
by Frank D. Thomason
Atty

Fig 2: Spiral disc motion-picture machine, U.S.Patent 976954, Nov 29th 1910

Early Work on Projection

Late in 1909, Victor displayed his new model and explained his plan to the directors of the White Lily Company, at the home offices in Davenport, Iowa. They agreed to finance the project and put into being the New Victor Animato-Graph Co. (The company name was changed in 1915 to Victor Animatograph Co.) Operations started February 16, 1910, in the White Lily factory.

It soon became apparent that the disc device system had some inherent short-comings such as film buckling, low illumination and difficulty of procuring uniform exposures for the several scenes on each disc. Further development was dropped in favor of another device, called the Stereotrope, which used the same intermittent pawl movement developed for the disc film machine. This projector used two circular 73 in. *(sic - did Rose mean 7.3" ? The patent does not specify)* metal discs. One disc with 15 photographic glass transparencies mounted in apertures in the perimeter was used for "still" projection; the other an animated cartoon of 30 frames printed on gelatin, was used for motion pictures. One turn of a crank changed the still pictures or, with the 30-frame disc, rapid cranking produced a motion picture. Because the intermittent travel was the same as 35mm, short strips of standard film could be shown (Figs.3A and 3B). The Stereotrope was first marketed in

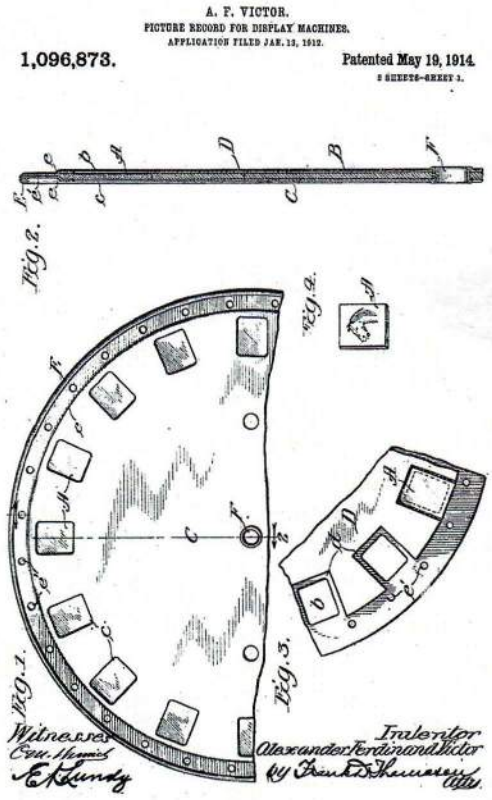

A. F. VICTOR.
PICTURE RECORD FOR DISPLAY MACHINES.
APPLICATION FILED JAN. 13, 1912.
1,096,873.
Patented May 19, 1914.
2 SHEETS-SHEET 2.
Fig. 2.
Fig. 4.
Fig. 1.
Fig. 3.
Witnesses
Inventor
Alexander Ferdinand Victor
by Frank D. Thomason
Atty.

Fig 3A: Stereotrope Projector patent 1096873A 1914

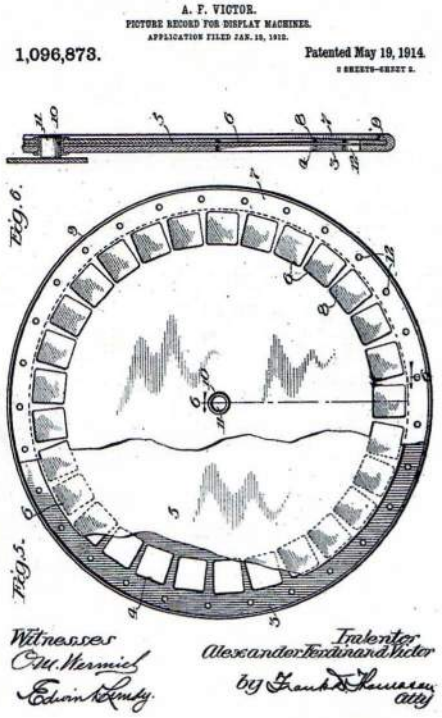


Fig 3B Same as Fig 3A - moving picture record

December, 1910.

Illumination appeared as the big problem. The 24 c.p. G25 carbon filament lamp was insufficient, even when used in a lamphouse with both front and rear reflectors - better than the oil-wick lamp in "Magic Lanterns" - but still not good enough (Fig. 4). The lamp manufacturers could not yet make a lamp with a greater concentration of the filament. So Victor designed a 5-ampère self-centering arc, using two cored 6-mm carbons, individually handled (Figs. 5 and 6). This first truly portable electric arc for portable projectors or stereopticons produced a concentrated and intense source of illumination. This lamp was used on several successive projectors: the Stereotrope, an opaque (post card) projector; the Viopticon, a standard 31 by 4-in. stereopticon; and later on 35mm motion-picture projectors, until the introduction of the highly efficient 30-volt, 20-ampere Mazda lamp.

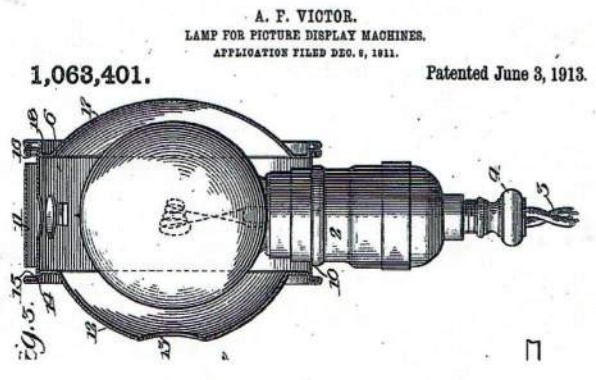


Fig 4 Double reflector projection lamp, Patent US 1063401

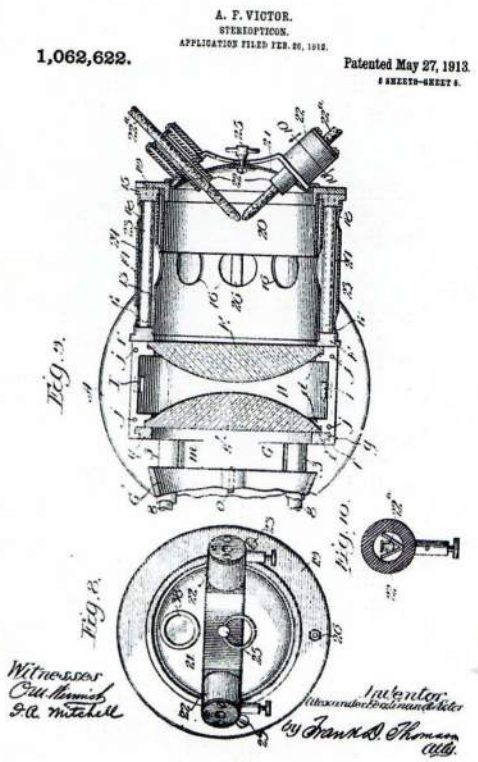


Fig 5 Arc lamp for portable projection - Patent US 1068622

The Viopticon, the first truly portable stereopticon, introduced in 1912, used a single-glass slide, with an outside measurement of 2 by 2 ¼ in., mounted in an embossed pressboard frame. No cover glass was used, the emulsion side being coated with a flint-hard collodion base coating which resisted scratches. It was practically unbreakable and very light in weight. This slide was the forerunner of the 35mm, 2 by 2-in. slides used today. A library of slide sets was created with several religious, educational and fraternal "illustrated lectures." Slides supplied were black-and-white or hand-colored and in either Viopticon or standard 3 1/4 by 4 in. sizes.

Stereopticons, for standard slides were bulky and heavy, using big arc lamps or oxy-hydrogen "lime" lights. Victor's entry in 1912 was the first really lightweight standard stereopticon - an all cast-aluminum, cylindrically shaped instrument, using the Victor electric arc later adapted to the new coil-coil tungsten Mazda (250- and 500-w) lamp.

The 28mm Era

During this period of creating an efficient illuminant for still projection,Victor was following through on his main objective: designing lightweight motion-picture equipment. His first offering was a 35mm "beater movement" projector, again using the Victor arc with rheostats supplying 5, 10 or 15 amps. Illumination for an 8- to 10-ft projected picture was excellent. This projector was shown at one of the first

Fig 6 Stereotrope with arc lamp, 1912

conventions of the National Photo Dealers Association, held in 1914. The response was enthusiastic. But the shortcomings of the beater movement soon became apparent.

Victor then began designing another 35mm projector with a three-point-star Geneva Movement, "fire-proof magazines" and an ingenious lantern slide attachment with a self-adjusting condensing lens system. (Lantern slides were still a requisite. No program was complete without song slides and announcements - the "Ladies Please Remove Your Hats" era.) This projector, introduced in 1915, satisfied the nontheatrical user for picture size, quality and portability, but the danger of fire while handling became an insurmountable hazard, which Victor foresaw would severely limit the growth of the market.

Then began Victor's crusade to establish a new standard of film, one which by agreement with the filmmakers, would be supplied only in cellulose acetate stock, safe from fire danger and thereby not requiring the protection of the fire-proof booth. 35mm motion pictures could be printed on "safety" film, but the user could not be depended upon to show only film with the word "safety" printed on the edge.

The new standard, he argued, must be of such dimensions that 35mm nitrate film could not be split or trimmed economically to match the new size. He was supported by one projector manufacturer, Pathescope, but was bitterly opposed by all others.

Prior to World War I the French Pathescope, with a library of 28mm non-inflammable film was introduced to the United States and Canadian markets. When importations of projectors was cut off after the war started in Europe, Victor designed and built, in 1917, the Victor Safety Cinema to use this 28mm film, which appealed to him as the answer to the hazard problem. Victor redesigned the Pathescope film only to the extent of using three perforations on each side of the frame instead of the original three and one. As previously noted, he presented a paper in 1918 to the Society of Motion Picture engineers exposing the hazards involved in using 35mm nitrate film in schools, and churches and elsewhere without booth protection and urged the adoption of 28mm safety film by the SMPE as a new standard.

In the Safety Cinema, Victor used a conventional four-point star and cam and an intermittent sprocket that used both Pathescope film and the new standard (Fig. 7). Illumination was satisfactorily produced by a new concentrated 28-32 volt, 165-w filament lamp. Victor found it practical to operate incandescent lamps at higher-than-rated voltage to gain the needed increase in light intensity. Lamp manufacturers opposed this procedure, but it soon became common practice, although it decreased lamp life from 100

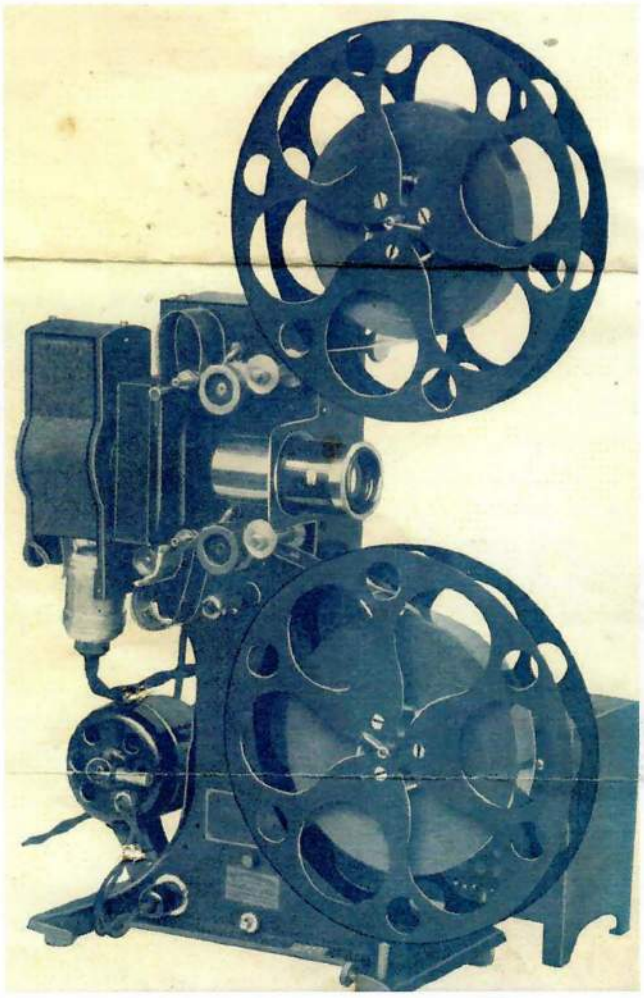


Fig 7: 28mm Victor Safety Cinema, 1917

hours to only ten or twelve.

Then Victor began a persistent effort to induce film producers to supply 28mm prints from 35mm negatives. But the producers would have no part of the program. The first favorable break came when George K. Spoor (Essanay) and George Kleine, both

pioneers of the exhibition industry, agreed to furnish a limited number of pictures. To facilitate the creation of a supply of subjects, Victor built the first continous reduction printer and offered it to the industry (Fig. 8). (See Transaction of SMPTE No. 9,

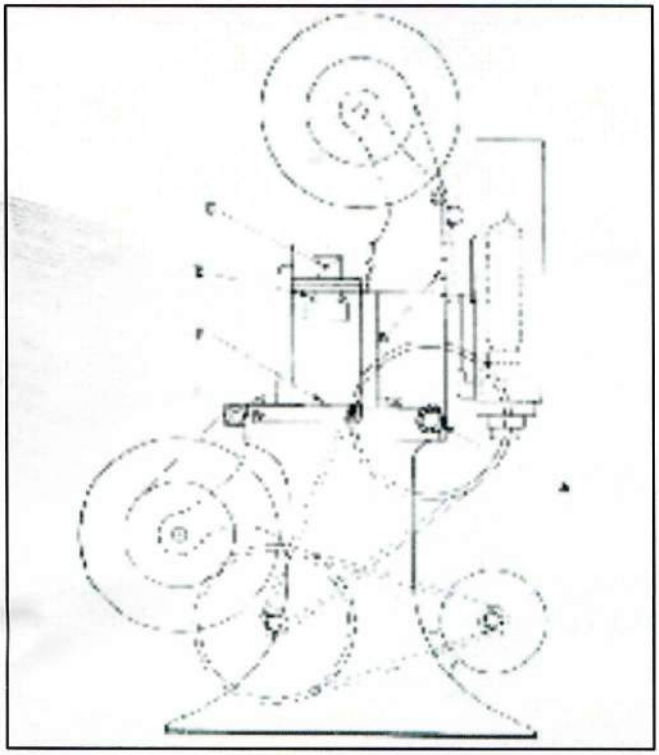


Fig 8: Victor continuous reduction printer, 1909. (A) sprocket with two sets of teeth (B) illumination aperture (C) 10" reflecting prism, rotatable permitting correction of faulty frame line (D) lens (E) printing frame where image is formed.

pp. 34-36 Oct. 1919.)

He set up a print reduction laboratory in Chicago. But it was a lone and ultimately futile effort. There was no sufficient Supply of suitable classified subjects on which to build a new industry among schools, churches and institutional users. Here was a market of great potentials unsatisfied. Sales of projectors ebbed. Film rawstock was comparatively too expensive and the project did not have the blessing of the film producers. The whole movement died "aborning."

In an attempt to salvage the 28mm libraries with a very low-priced projector, in 1920 Victor produced the Victor Home Cinema, a horizontal hand-driven projector (Fig. 9A & 9B). It was a futile attempt to keep 28mm alive.

During the calm between the 28mm era and the entry of a new safety standard that the whole industry would support, Victor was busy on other projects. Among these were attachments for the Stereopticon line: an attachment for using 35mm film strips (the fore-runner of the film strip projector) and for micro slides, a 35mm still film magazine-load camera, spot

Fig 9A: Victor Home Cinema, 1920.
(Evans Col. ex Riley Col, as yet unrestored)

Fig 9B: ID plate from Fig 9A.

and flood lights for photographers, and other items.

Advent of 16mm and Sound

Then came the climax - the millennium. In January, 1923, Eastman Kodak Company announced a new film, 16mm wide developed by a reversal process, as well as equipment for use with it (*Trans. SMPE*, No. 16, pp. 252-258, May 1923; see also *Jour. SMPTE* 64: 105-116, Mar. 1955). Victor did not await the reactions of the few other manufacturers. He immediately began designing a 16mm camera and companion projector, both hand-driven. Again sessions of twenty to thirty hours at a stretch became routine.

Production started early in 1923. A camera and a projector were offered to the trade simultaneously, with the first advertisement appearing in the Davenport, Iowa, newspapers on August 12, 1923 (Fig. 10), quickly followed by ads in the few trade journals. The response was instantaneous, but the first dealers demanded a guarantee that continuing film supply was available -- or "money back."

Thomas Willard (Willard Storage Battery Co.) was one of the first purchasers. He added a compartment on the back of the Victor camera for a special little storage battery and fitted a tiny motor to the

Make Your Own Motion Pictures!

at very low cost and with guaranteed success

Through revolutionary changes of design and construction and the invention of a radically new and simplified mechanism performing work formerly done by many and complicated parts A. F. Victor has opened up to the amateur the marvelous field of motion-photography.

The Victor Cine-Camera

with the new reversible 16 Millimeter film

Puts life into Your Pictures at a New Low Cost that Everyone Can Afford. Low Camera Cost and Low Film Expense Renders Motion Picture Photography as Inexpensive as Taking Ordinary Lifeless Stills

THE VICTOR CINE-CAMERA

The Price is $55. Tax Paid

Anyone over twelve years of age can make perfect motion pictures of professional quality with the Victor Cine-Camera

EASTMAN CINE-KODAK 16 MILLIMETER DAYLIGHT LOADING FILM IS USED

Price per 100 foot spool (including all finishing charges) $6.00

The Victor Cine-Projector

Shows Your Pictures on the Screen with Truly Professional Perfection. The Image is Rock-Steady, Flickerless and Brilliant.

THE VICTOR CINE-PROJECTOR

The Victor Cine-Camera and Victor Cine-Projector are guaranteed for mechanical and optical perfection and to equal every claim for completely satisfactory service

Manufactured by the

VICTOR ANIMATOGRAPH CO., INC.—DAVENPORT, IOWA

Fig 10: Newspaper ad from Davenport Daily Times, Aug 11th 1923.

mechanism. He urged Victor to produce the first electrically driven camera. Only a few were made, for the batteries discharged too fast and they leaked. It was a short-lived model.

Within the year following Kodak's and Victor's hand-driven camera offerings, another manufacturer had the audacity to introduce a hand-held spring-driven camera. It was a success. So Victor started all over again, and in mid-1925 came out with a new model, spring-actuated camera (Fig. 11A), and a motorized projector. Victor claimed three 16mm "firsts" - a three-lens turret; variable speeds, 8, 16, 24, and 64 frames/sec; and reverse action for lap dissolves (Fig.

Fig 11A: Victor Cine Camera, 16mm, model 5, 1926

Fig 11B: Victor Cine Camera, 16mm Model 5 1930.

11B).

Victor cameras and projectors (Fig. 12) found a wide domestic and foreign market, chiefly in the amateur bracket, though projectors began finding acceptance in the school field. Victor's dreams of filling a void in the educational, religious and industrial markets began coming true. Films were becoming available: Kodascope Libraries, Erpi Class-room Films, Home

Fig 12: Victor Cine Projector 16mm Model 5, 1930

Film Libraries, and a few others.

Sound-on-disc came into being in 1929-1930. Not to be outdone Victor quickly produced his first sound projector employing a vertical turntable with a floating pendulum tone-arm, mounted on a rocker support. The pickup maintained a vertical position in the groove clear across the record (Fig. 13). It performed beautifully.

Production tooling was completed just before optical track sound-on-film appeared. Sound-on-disc was not even competitive with the newcomer. Victor met the challenge by presenting his first sound-on-film projector early in 1933 (Fig. 14). Outstanding innovations were a stationary sound drum and a free running, fly-wheel-loaded impedance or drag roller. Another feature was a cylindrical sound optic developing a parallel beam of light through the sound

Fig 13: Victor Sound-on-Disc Animatophone, 1930

track, not requiring any refocusing adjustment for the track on either surface of reversible or printed positive film.

Sound-on-film was the answer to the nontheatrical users' objections and problems. Hundreds of film subjects became available to business, educational and many other fields. In a remarkably short period thousands of films came into existence, but practically none from the theatrical film producers. To them the film was too small for big-screen projection and the reduced size and comparatively slow movement across the sound gate would not do justice to the quality of 35mm soundtracks.

It took World War II to force upon the film industry realization that 16mm was fully capable of doing the job of instructing and entertaining the inductees of the Army, Navy and Air Force.

At the beginning of the War the projector makers were called to Washington to discuss the raw material situation. One speaker, an Air Force officer, told the group that the "red-school house" method of education would serve the training program as it always had, that the need was guns and ammunition -- not movie outfits.

It was announced that no aluminum or brass would be alloted to this industry -- that all manufacturers were to repossess projectors from industries and other users of large numbers of projectors to supply the government with the quantity it might need. That would be ample, so it was said -- and converting the plants to making war materials was in order. Victor promptly proceeded to change to using cast iron in place of aluminum. In spite of added weight, Victor's production continued, along with war materials.

Suddenly the demand broke loose. All branches of the armed services demanded more projectors than all the factories could supply. All production materials were soon given high priority. The film producers were called upon to supply 16mm prints of even late releases, for entertainment of the services. Production of 16mm training films moved into high gear. Studios, processing laboratories, libraries, mushroomed into action.

Postwar Years

Thus 16mm came into it's own as the undisputed standard for all nontheatrical service, went into fields of usefulness far beyond the constantly expanding horizons that Victor originally envisioned in 1912.

During the several pauses between designing and producing major equipments, and after 16mm was established as an industry in it's own right, Victor was busy on several variations of cameras and projectors for specialized uses: arc lamps, continuous projection, amplifiers, advertising display devices, color photography and projection, and magnetic record and playback. In his fifty-two years of activity Victor created more than 150 different models of picture-taking and projection equipment and applied for eighty-six patents (see Table 1) all but a few of which were issued. Considering the limited facilities at his disposal in the early days, Victor was a wizard at coming up with a new model as the need arose.

Sixteen-millimeter is an industry pioneered by the amateur and one which expanded into ail-embracing fields of industry, science, government, education, and entertainment.

Now the story may be repeating itself with 16mm being time-tested in the amateur market. Perhaps the film aperture is able to produce a screen image of acceptable size and the soundtrack, magnetic or optical, may be large enough and sufficiently fast to reproduce good sound. Nothing seems to be impossible in this age.

Victor craved a part in the evolution of 8mm. His last project, a new type of 8mm camera and projector, was far from finished at the time of his last illness. At the age of eighty-two years and nine months he died at his home in Carmel, California, on March 29,1961. Victor had a long and active association with the Society of Motion Picture and Television Engineers. He joined the Society in 1916 (the year it was founded) and remained a member until his death. Although his name does not appear on the original

Certificate of Incorporation, it is listed in the first published list of officers and committees, published in October, 1916, where his second initial is incorrectly given as "S" rather than "F." In October, 1918, he was elected to the Board of Governors and he served as Secretary of the Society from 1919-1921. H was a Vice-President in 1923-1925. He also served on many committees including Projection, Theater Equipment, Film Perforations, Patents, Standards, Progress and Membership. For many years he took an active part in the discussions following presentation of technical papers.

When nearly 80, Victor summarized his early life (in a letter to John McCullough, then Chairman of the Historical and Museum Committee) by saying that he had been an "exhibitor, camera-man, producer, studio owner, script writer and twice an actor." He could have added inventor, designer and manufacturer. Victor had an insatiable enthusiasm and prophetic vision for designing and building equipment to meet the needs of the time in the rapidly changing field of non-theatrical equipment. In the early years of this development, 1918-1921, he fought and won a battle for the adoption of a safety standard for 28mm film. He very quickly recognized in 1923 the importance of the new 16mm reversal film and predicted a great future for it. His interest and enthusiasm never waned and he met "head-on" each new challenge presented to him by designing and producing apparatus to satisfy the needs of the amateur, of industry, of education, and of government. Even in the closing years of his life his active mind continued to keep abreast of the times and he applied for patents and wrote articles, one of which, on a "Multicolor Televisor," was submitted and read at the SMPTE meeting in Detroit in October, 1958. Alexander Victor played an important part in the birth and growth of the nontheatrical motion-picture industry.

Table 1. U.S. Patents Issued to Alexander F. Victor. A few patents unrelated to motion pictures or projection are not included.

U.S. Patent No.: Description; Date of Application; Date Issued

42496: Stereotrope Design; 12/9/11; 5/7/13

45133: Stereopticon Design; 2/3/13; 1/6/14

47938: Lantern Slide Design; 4/12/15; 11/5/15

74639: 35mm Still Camera Design (Motion-Picture Film); 6/24/26; 3/6/28

78991: Design for Miniature Theatre; 12/15/24; 7/16/29

91722: Victor Trade Mark (Original); 1/30/13; 5/20/13

95689: Viopticon Trade Mark 11/24/13; 3/3/14

324,446: Victor Trade Mark; 5/21/35

382,026: Film Tension Control (British); 9/14/31

386,360: Shutter Control (British); 9/8/31

388,098: Speed Control (British); 9/8/31

976,954: Spiral Motion-Picture Projector; 2/4/10 11/29/10

1,019,931: Spiral Motion-Picture Film; 1/28/10; 3/12/12

1,019,932: Spiral Film Display Machine; 2/23/10; 3/12/12

1,027,576: Optical Toy 4/11/08; 5/28/12

1,062,622: Cylindrical Stereopticon; 2/26/12; 5/27/13

1,063,401: Lamp House With Double Reflector; 12/9/11; 6/3/13

1,084,678: Arc Opaque Projector; 11/15/11; 1/20/14

1,096,873: Stereotrope Record; 1/13/12; 5/19/14

1,198,682: Safety Device for Motion-Picture Film 35mm; 3/23/16; 9/19/16

1,198,683: Geneva Movement--3Point; 3/23/16; 9/19/16

1,212,853: Combination Motion-Picture and Slide Optical System; 3/23/16; 1/16/17

1,227,507: Viopticon; 2/26/14; 5/22/17

1,231,974: Dissolving Stereopticon; 5/3/17; 7/3/17

1,322,658: Framing Mechanism; 3/23/16; 11/25/19

1,364,967: Variable Rheostat Control; 7/17/19; 1/11/21

1,478,806: Wireless Tel. Lecture System; 3/l/22; 12/25/23

1,534,044: Camera Crank and Clutch; 12/10/23; 4/21/25

1,559,815: Proj. Film Tension and Framer; 12/10/23; 11/3/25

1,589,493: Stercoscreen; 2/12/23; 6/22/26

1,625,065: Cine Proj. Intermittent12/10/23 4/19/27

1,666,077: Still Camera Film Container; 6/24/26; 4/17/28

1,682,873: Still Camera Mechanism; 6/24/26; 9/4/28

1,706,089: Cine Camera Film Mechanism; 12/10/23; 3/19/29

1,755,280: Miniature Theatre Film Mechanism; 12/15/24; 4/22/30

1,781,937: Film Sprocket (Single Flange); 7/18/29; 11/18/30

1,812,068: Film Measure (Camera); 5/17/29; 6/30/31

1,817,217: Film Spool; 10/12/27; 8/4/31

1,824,519: Reel Shaft and Clutch; 4/24/30; 9/22/31

1,825,253: Camera Governor and Mechanism; 1/21/29; 9/29/31

1,825,254: Intermittent Shuttle Mechanism (Projector); 4/24/30; 9/29/31

1,830,816: Speed Control (Camera); 12/l/27; 11/10/31

1,855,267: Adjustable Reel Arms; 4/24/30; 4/26/32

1,855,268: Adjustable Film Tension Control (Camera); 7/18/29; 4/26/32

1,855,269: Viewfinder and Leveler; 12/l/27; 4/26/32

1,918,724: Proj. Pictures in Colors; 2/3/33; 7/18/33

1,923,855: Spur to prevent back-up; 12/l/27; 8/22/33

1,930,544: Vertical Record; 1/26/31; 10/17/33

1,933,400: Rocker Type Pickup; 9/28/31; 10/31/33

2,018,043: Sound-on-Disc Animatophone; 1/8/31; 10/22/35

2,019,280: Sound Recording-Aerial Image; 9/14/34; 10/29/35

2,058,193: Safety Film Trip; 8/10/34; 10/20/36

2,070,325: Swing-out-Lens Mount; 1/3/36; 2/9/37

2,087,863: Sharp Removable Carrying Case Top; 12/9/35; 7/20/37

2,120,476: Safety Inertia Loop; 4/25/35; 6/14/38

2,344,574: Cam Flywheels and Shutters for Motion-Picture Apparatus; 3/21/44

2,341,301: Impedance or Drag for Projectors; 2/8/44

2,364,495: Adjustable Sound Optics for Cine Projectors; 12/5/44

2,382,116: Mountings for Motion-Picture Sound Projectors; 12/24/43; 8/14/45

2,521,427: Spindle (Reel Arm); 11/28/45; 9/5/50

2,589,319: Portable Sounding Device; 1/28/46; 3/18/52

Alexander was president of the company until 1947-48. After he resigned, he was elected honorary chairman of the board of the Victor Animatograph Company. His successor as president was Samuel G. Rose. Samuel Rose had been with the company since 1910 when he started as its sales manager.

VICTOR TRIPOD STEREOPTICON

Ideal School and Lodge Equipment

(Tiltable Swivel Head Tripod)

This equipment is identical with the Model 2-I Victor Portable Stereopticon as shown on page 3, with the exception of the tripod stand replacing the pedestal base.

Description

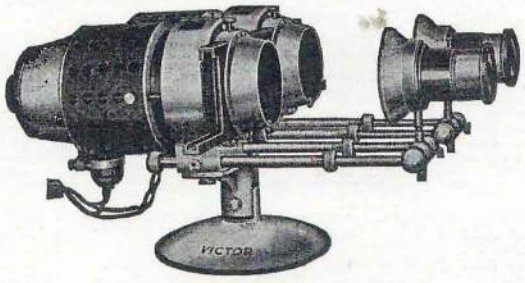
The Model 2-I Victor Tripod Stereopticon includes the instrument complete, as illustrated on this page, with one Mazda lamp, connecting wire, condensing and projection lenses, and tripod stand **$60.50**

Extra Pedestal Base only..... **$ 4.00**

Tripod Stand only interchangeable with pedestal base on any single Victor Portable Stereopticon ..... **$ 8.00**

No. 2 Carrying Case..... **$15.00**

VICTOR DISSOLVING STEREOPTICON



(Patented — Other Patents Applied For)

Attaches to Any Lamp Socket

There is only one way to get the true fade-in dissolving effect, and that is to manipulate the light in the lamps. The Victor patent employs the new principle of the cutting of the light in one lamp at the same ratio the light is increased in the other lamp. One picture fairly melts into the next, as slowly or rapidly as the operator desires. This added to the many features that have made the Victor Portable Stereopticon the favorite of the world's critical buyers, produces what users had despaired of getting—a simple, economical, genuine dissolving stereopticon.

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Section 1.

How to Present an Illustrated Program

An illustrated service is a work of art, but considerable effort and planning are necessary to the most effective and inspirational presentation.

1. PLAN IN ADVANCE.
   a. Plan your illustrated services in advance. It is well to have a series ordered ahead, for then there will be no chance for misunderstanding or delay.
   b. Verbally announce each program at least a week in advance, print it in the bulletins and in the local newspapers, feature the notice on the bulletin board, —in other words advertise in every way possible, each method of announcing, "tying up" with the others. Such systematic announcements add to the success of the programs, and greatly increase attendance.
2. CHECK THE SLIDES AS RECEIVED.
   a. Unpack the shipments immediately and notify the source of any slides broken or missing.
   b. Verify the rotation of slides with the manuscript, and familiarize yourself with the text, so that you can read it forcefully and effectively, or prepare your own address to fit the slides.
   c. Be sure the slides are in order, with the thumb marks all facing toward you and in the upper right hand corner. In placing slide in the carrier of the lantern, place the thumb of the right hand over the marker and stand behind the lantern. The slide in the carrier is upside down and reversed.
3. TEST OUT THE PROJECTION EQUIPMENT.
   a. Do not leave the setting up of the lantern and screen until the last minute.
   b. If using a muslin screen be sure that it is stretched taut, free from wrinkles. A white enameled screen on spring roller is the preferable type of screen, for stereopticon work, but a clean white heavy muslin screen will do.
   c. The correct location of the lantern is at the rear of the auditorium or in the balcony. The focal length of the lens should be such that the projected image on the screen should all but fill the width of the screen. If your lens is not right, arrange for an exchange with your lantern maker or dealer, stating the exact distance between the lantern and screen, and give size of image desired also.
   d. Long before the hour scheduled, set up the lantern, put a slide in the carrier, focus and center the image. Make sure that every adjustment is completed to effect a perfect image on the screen, sharply focussed and evenly illuminated. Have the first slide of the series in position in the lantern so that the image appears on the screen when you signal the operator to start, and the light is turned on in the lantern.
   e. Always have an extra lamp on hand, for projection lamps give no warning of a "blow-out." Keep an extra lamp ready always.
4. THE OPERATOR.
   Practice with your operator so that he will clearly understand your signals, and change slides at the proper moment. Arrange a signal such as a pocket flash light or clicker to warn your operator when to change slides.
5. PROCEDURE.
   a. Open the service in a usual way.

The Contents page of Victor 124-page lantern slide catalog number 18, not dated but circa 1930 judging by the advertisement for the 16mm Victor Cine Camera Model 5 with turret of three lenses on the inside back cover. Victor claimed that more than 20 million Victor lantern slides were in use by then.

Ex Riley Collection.

The Purposes of The Society shall be:

To establish an organization of people and entities interested in the collection, possession, conservation, restoration and maintenance of Magic Lanterns, Lantern Slides and related materials;

To encourage members to share their knowledge of Magic Lanterns, Lantern Slides and related materials with any interested persons or entities;

To coordinate research, catalogue material and disseminate information about the history, uses, development and preservation of Magic Lanterns and Lantern Slides; and

To promote exhibitions and/or shows utilizing Magic Lanterns, Lantern Slides and related equipment, in known methods of use in as historically accurate a manner as possible.

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Note: As a Society, MLS does not give valuations nor takes responsibility for advice or guidance, nor implies any form of guarantee for the accuracy or consequences arising from information so given.

The Magic Lantern Calendar

Events

Aug. 30, 2025, ***Subterranean Magic Lantern Show***, Elliot & Schlemowitz present a modern magic lantern show with antique equipment underground, Century House Historical Society, The Snyder Estate, 668 Route 213, Rosendale, NY.

Oct. 10-12, 2025, ***Magic Lantern Show***, Matt Schnittker at Gold Rush Live at Marshall gold Discovery State Park, 310 Back Street, Coloma CA 95613.

Oct. 18, 2025, Autumn meeting, ***Magic Lantern Society (UK)***, Swedenborg Hall, 20-21 Bloomsbury Way, London WC1A 2TH, England.

Dec. 15, 2025, ***Christmas Magic Lantern Show***, featuring Dr. Nick Hiley, Salvation Army Hall, Alma Parade, Scarborough YO11 1SJ, U.K.

Through 2025, ***Project Space Residency***, featuring Melissa Ferrari, Visual Studies Workshop, 31 Prince Street, Rochester, NY 14607.

Jan. 25, 2026, 2026 ***Annual General Meeting***, Magic Lantern Society (UK), Musical Museum, Brentford, London, England.

Apr. 23-26, 2026, ***21st International Convention of the Magic Lantern Society of the US and Canada***, Toronto, CA. Save the Date – more information coming soon!

Sundays through Thursdays, ***Salem on Foot: Magic Lantern Tour***, rare and strange images projected upon shadowy walls and darkened streets, bringing life to tales of ghosts and witchcraft and murder. Derby Square, Downtown Salem, MA.

Exhibits

Through Aug. 17, 2025, ***Words and Wonder: Rediscovering Children's Literature***, a rare look at juvenilia including magic lantern slides from Aesop's Fables, Harry Ransom Center, University of Texas at Austin, 300 West 21st St., Austin, TX 78712.

Through Aug. 31, 2025, ***Magic Lanterns of the Meiji Era: Sono's Magic Lantern Art***, JCII Building, 25 Ichiban-cho, Chiyoda-ku, Tokyo 102-0082, Japan.

Through mid-October, ***Portraits from the Past Exhibition***, historic portraits taken across the world, told through the lens of a magic lantern, Fair Maid's House, 15-19 North Port, Perth, Australi

Through Dec. 28, 2026, ***Im Zauber Des Lichts, Bilderwelten der Latera Magica***, an overview of children's slides production in Germany with examples from the beginnings in the 1780s to the 1930s, with children's lanterns from the same period, with their boxes, Freilich-tmuseum Hessenpark, Laubweg 5, 61267 Neu-Anspach, Germany.

Through Dec. 29. 2025, ***Im Zauber des Lichts – Bildrewelten der Laterna Magica: Magic Lantern and Toy Lantern Slide Exhibition***, Freilichtmuseum Hessenpark, Laubweg 5, 6126 Neu-Anspach/Taunus, Germany.

VICTOR SLIDE SERVICE

Stock Slides are available of more than 48,000 subjects for Catholic and Protestant Churches and Sunday Schools, Universities, Grade Schools, Lodges, etc.

HIGHEST QUALITY — LOWEST PRICES.

Special Made-To-Order Slides can be satisfactorily reproduced from any kind or size of copy, for any purpose — Institutional — Scientific or Commercial. A corps of highly trained lantern slide specialists are ready to execute your every order perfectly.

The Famous Featherweight Slide is an exclusive Victor feature and has been accepted by thousands of users because of its many advantages. It weighs less, costs less and is less easily broken than any other type of glass lantern slide.

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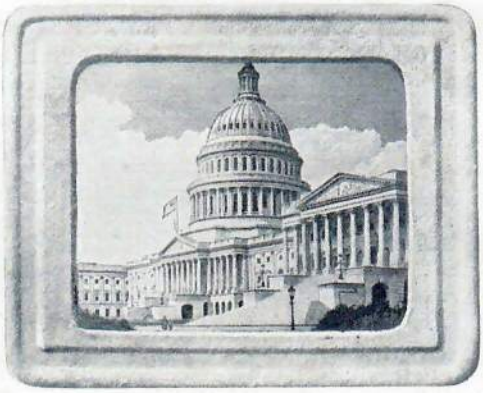

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